

MacWEEK

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W O R K S T A T I O N N E W S



Apple to help users help themselves

Apple's support strategy



Self-sufficiency
Using Apple tools, support providers handle 95 percent of problems.



Escalation
High-level service available to assist customers in complex applications.



Recourse
Low-level Apple support available to customers dissatisfied by local options.

Self-sufficiency key to customer support

By Dan Ruby

Chicago — Apple's strategy for customer support and service will emphasize self-sufficiency among users, two top Apple executives said in interviews here last week, but managers from some of the company's biggest accounts aren't sure that formula can work.

"We don't have enough arms and legs to provide support directly," said Morris Taradalsky, Apple vice president of customer service and information technology. "We want to provide the tools and technology to allow support providers to handle 95 percent of the load themselves."

Among the tools that Apple will provide are an interactive videodisc training course called Mac Fundamentals ... and Beyond and a collection of technical information in CD-ROM format called Support Navigator. The company last week also announced the creation of a new paid phone support function for its networking and communications products.

"A lot of the plan is now in place, and other parts are in process," Taradalsky said.

Macintosh managers in large organizations have been clamoring for new support programs and personnel from Apple, which has traditionally declined to provide direct support to customers in favor of referring them to local dealers.

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The MacIS board, including (from left) Ray Palkovic of GTE, Alan Soucy of Martin Marietta, Jim Young of EDS and Ron Olive of American President Companies, first met last December.

Managers convene MacIS to sway Apple strategies

Apple-funded group outlines priorities

By Dan Ruby

Chicago — Macintosh managers from more than 100 of Apple's largest corporate and university customers presented Apple with an ambitious list of priorities for future products and services at the MacIS Inaugural Conference here last week.

Apple, which provided seed financing and organizational support to the new group, promised to give the proposals serious consideration and provide written responses and statements of direction.

"This process can grow into an extremely valuable two-way relationship," Apple CEO John Sculley told the group in a video conference keynote address.

The stated mission of MacIS is to provide Mac managers in information systems organizations with a unified voice to exercise influence on future Apple strategies.

"It remains to be seen if we will have influence. We believe we will," said Jim Young, MacIS president and assistant to the president of Electronic Data Systems in Dallas.

The proposals (see box, Page 8) were presented to a panel of Apple representatives in a sometimes heated session at the conclusion of the two-day meeting. "Anyone who thought this was going to be an Apple love-in was mistaken," said Jack Gillenwater, a staff analyst in

See MacIS, Page 8

Casey goes to bat for Macintosh connectivity

By John Battelle

New York — Swinging for the fences in his first major-league appearance as an Apple player, former IBM heavy-hitter Don Casey, now Apple's vice president of networking and communications, last week unveiled a lineup of Macintosh connectivity products that, according to Apple, will "take networking out of the user's way."

But whether Apple hits one out

of the ballpark is yet to be determined, as the 16 products announced here are not scheduled to ship until later this year or in the first quarter of next year. (For a complete product rundown, see MacWEEK, June 13.)

Apple left plenty for third parties, developers and systems integrators to do in announcing its vision of the Mac user connected to a "transparent" network. Many of the new

products are intended for developers rather than users.

Casey presented Apple's communications offerings to more than 250 analysts, reporters, and corporate and university customers in an hour-long presentation that included demonstrations, videos of multi-vendor users and a whimsical "newsreel" that poked fun at Apple's previous forays into networking. The New York presentation was beamed by satellite to more than 80 major customer sites around the world, including the MacIS Inaugural Conference in Chicago (see story, this page).

"It's good to see [Apple] still has

See Networking, Page 8

At Apple's networking rollout on June 12, Don Casey took center stage for the first time since joining the company. Casey's presentation of the communications lineup incorporated videos, a mock newsreel and demonstrations of 16 new connectivity products.



Mac is front page at ANPA

By Steve Hannaford

New Orleans — If any of the 12,000-plus newspaper publishers, editors and designers visiting the annual American Newspaper Publishers Association (ANPA) show last week were not previously taking PostScript and the Macintosh seriously, they are now.

Amid the mammoth printing presses and bundling equipment at the two convention sites were Macs

— more than 1,000 of them in scores of booths — and a flurry of serious Mac-related product introductions.

"More than half the vendors on the floor have Macintoshes; the other half have plans [to show them next year]," said Gary Cosimini, senior art director for the New York Times. "This is a watershed event in the Macintosh news-

See ANPA, Page 9

L A T E N E W S

Graziano abandons Sun, rejoins Apple

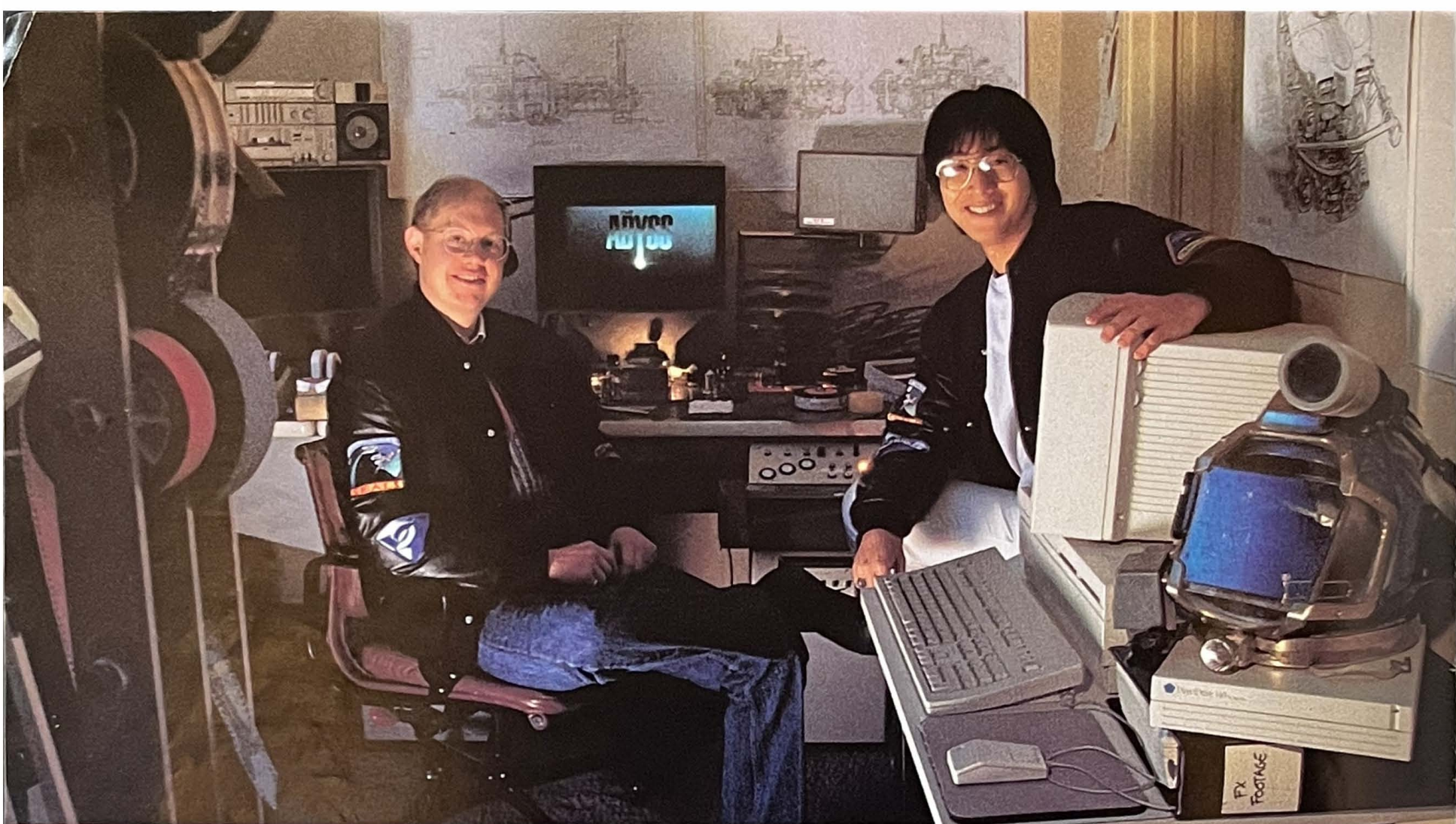
Cupertino, Calif. — Joseph Graziano, Apple's chief financial officer from 1981 to 1985 and until this week CFO at Sun Microsystems Inc., will rejoin Apple as senior vice president and CFO, effective immediately.

Graziano will become a member of Apple's executive staff, reporting to CEO John Sculley. He will replace Deborah Coleman, who took a medical leave of absence in December 1988 and said then that she would not return to the position.

Graziano's May 1985 departure from Apple came during the internal turmoil leading to the ouster of founder Steve Jobs. Sculley said the 45-year-old executive "is one of Apple's early and well-respected leaders and is remembered fondly by those of us who worked with him. We're pleased he'll once again be an integral part of the Apple team."

"We were surprised and disappointed by his decision," a Sun spokeswoman said. □

NEWSPAPER SECOND CLASS



Michael Backes, film industry computer systems consultant, and Van Ling, creative and technical assistant to James Cameron, director of the new 20th Century Fox film *The Abyss*.

"We put the Jasmine DirectDrive through hell, but it got us through 'The Abyss.'"

"Fifteen months ago, we started working on a new underwater adventure movie called *The Abyss*. We needed a hard drive that could stand up to the worst possible circumstances. So we got two Jasmine DirectDrives.™ And immediately, we put them in the worst possible circumstances.

"We took them down to a hot, dusty place called Gaffney, South Carolina, where the majority of the film was shot. We put them in dirty rooms. We ran them almost 24 hours a day for over a year. They were dropped, they were covered with dust, they were bounced from location to location, they were used and abused—and they still worked great. We put them through as much hell as *we* went through. If anybody could break a drive, we could, and we didn't. They really performed for us.

"Often, we wouldn't have time to back everything up, so we just had to rely on the Jasmine drives to run properly all the time. And, even when they were really put through the ringer and we thought we were going to lose everything, the Symantec™ Utilities for Macintosh that come with the drives really saved us.

"We basically had the entire movie on those Jasmine drives. They were used to store storyboard scans, script changes,

animation tests, and various files covering every aspect of the film. This took up hundreds of megabytes of disk space, because the storyboards that we scanned into our Macintoshes® were constantly being revised and updated, and we couldn't afford to throw anything away during filming.

"The drives are still working great. We figure they'll probably have a long career in this business! And because they held up so well under pressure, so did we."

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MacIS members get peek at upcoming AppleLink 5.0

By Emily Brower

Chicago — At last week's flagship meeting of MacIS (see story, Page 1), Apple gave attendees a videotaped preview of a new version of AppleLink, the company's 6-year-old internal information and communications network.

AppleLink 5.0, due next month, has features that Apple dealers, developers and employees have clamored for since Version 4.0 was released in June 1986. The new version includes options for multiple file enclosures with electronic-mail messages, speed enhancements and background operation.

"There were improvements in the interface, like new strings for finding information on the network. It also looked like it will be faster to send messages," said Lockheed's Mike Bailey, president of the Apple

Professional Exchange. "It looks like MacIS will have access to its own icon on AppleLink."

Although Ron Olive, MacIS communications manager, declined to comment on the introduction, he said that the group plans to use AppleLink for its communications.

Despite MacIS participation in AppleLink, the system remains proprietary. In fact, an Apple-sponsored network for Mac users may never materialize. Development of the Mac version of AppleLink Personal Edition, Apple's on-line consumer service, is stalled, possibly permanently, sources said.

"We heard that Apple marketing killed the project because they didn't know what to do with it," said an assistant sysop on the network. □

PSN system targets TOPS

By John Battelle

Calabasas, Calif. — Information Presentation Technologies last week introduced the Personal Server Network (PSN), distributed AppleShare-compatible server software targeted directly at the popular TOPS network system.

Under the PSN system, any Mac, IBM PC or Unix node on a LocalTalk or Ethernet network can function as both a server and a client. In contrast to AppleShare and other centralized network programs, no dedicated server is required. Unlike the current version of TOPS, PSN is fully compliant with the AppleTalk Filing Protocol (AFP), making it "the first distributed network software that is a complete implementation of AFP," according to IPT.

Only machines that are targeted

as servers need the PSN software; other Macs can connect using AppleShare client software, which ships free from Apple. PCs will need a LocalTalk or Ethernet board to be part of the PSN network. PSN's server software for PCs includes AFP client software.

uShare, IPT's Unix server and client software, makes Unix machines part of a PSN network. uShare offers various Unix services, including electronic mail, print spooling and virtual hard disks for nodes that have only floppy disks.

PSN is shipping for \$149 for two users, Mac or PC. Packages for four, eight and 20 users are available at \$249, \$499 and \$999, respectively.

IPT is located at 23801 Calabasas Road, Calabasas, Calif. 91302; (818) 347-7791. □

An Apple missive from Cupertino

By Henry Norris

Cupertino, Calif. — More than 500,000 Mac owners last month found a surprise in their mailboxes: a letter full of useful user information direct from Apple headquarters here.

The gesture was unprecedented. It was the first time Apple has ever communicated directly to its customer base. The letter, sent to all Mac owners who returned their warranty card, was signed by Bill Coldrick, Apple's new senior vice president of U.S. sales.

The one-page document offered information on SE and II upgrade options, Apple's new monitors and 160-Mbyte hard disk, and the latest releases of HyperCard and the Mac system. It also had a table of recommended system software config-

urations for past and current Macs.

"We're taking a look at the whole area of customer relations and customer satisfaction and trying to find the best form of communication," said Jackie Whiting, manager of customer relations and communications.

"The feedback from the letter has been very positive," she added. "Some users even sent back photocopies with 'This is great' scrawled on them." The company has not yet determined, however, when or whether it will send out another such mailing, she said.

Kate Paisley, an Apple spokeswoman, acknowledged that the densely laid-out document "may not have been our best desktop publishing example. That's something we'll try to improve." □

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Apple to develop multimedia file format

By Connie Guglielmo

Cupertino, Calif. — Although it has taken a low-key approach to multimedia development on the Mac for the past year, Apple has decided it's time to get down to more practical matters.

At its developers' conference in May, Apple proposed a new file format for handling compound documents, or files that contain more than one type of data, such as text, graphics and sound. The proposed format is called media interchange file format (MIFF).

"We're taking the next step beyond PICT and text, beyond desktop publishing," said Richard Moore, an Apple software architect.

MIFF is based on interchange file format (IFF), a machine-independent format developed by Electronic Arts in 1985 as a way to exchange files for use primarily on the Commodore Amiga. IFF was also the basis for AIFF, Apple's audio interchange file format for storing digitized sound.

E-mail gateways to Unix coming

By Emily Brower

Baltimore — Macintosh electronic-mail users will soon have a multitude of options for sending and receiving messages to and from Unix workstations.

StarNine Technologies of Berkeley, Calif., said it will deliver a gateway to single mail transfer protocol (SMTP) mail programs for CE Software's QuickMail next month, and Cayman Systems of Cambridge, Mass., is at work on software that by next year should give the capability to Microsoft Mail. SMTP is the standard E-mail protocol used by 90 percent of Unix machines, said Elizabeth McGee, vice president of marketing and sales at StarNine.

StarNine announced that it will ship an SMTP gateway for QuickMail, called Mail*Link SMTP, at last week's Usenix show here. The new gateway runs on the QuickMail server, linking QuickMail users to any Unix mail program using SMTP. Instead of logging onto a Unix host with a terminal emulator, Mac users will be able to send and receive messages to Unix mail users directly from their QuickMail desk accessory.

Mail*Link SMTP offers several advanced features, including automatic notification of new messages, addressing that supports aliases and transfer of binary file enclosures. The binary file enclosure feature allows Mac users to send pictures and documents over Internet or UUCP (a Unix E-mail system that is built into all Unix machines) networks, which do not otherwise support transfer of binary files.

Cayman Systems' SMTP gateway for Microsoft Mail, originally announced in July 1988 and now due sometime in early 1990, also will enable Mac users to communicate with Unix mail systems. Cayman's gateway will be part of a Microsoft Mail server running on the company's GatorBox routers and also will function as a Microsoft Mail server for AppleTalk LANs.

A 10-user license for StarNine's Mail*Link SMTP will sell for \$795, with additional licenses priced at \$595 per group of 10 users.

StarNine Technologies Inc. is located at 2126 Sixth St., Berkeley, Calif. 94710; (415) 548-0391. Cayman Systems is located at University Park at MIT, 26 Landsdowne St., Cambridge, Mass. 02139; (617) 494-1999. □

Jerry Morrison, principal author of IFF and now a software engineer at Apple, said one significant attribute of MIFF would be "linking," whereby one file could contain pointers to anchors within another file.

This means anyone developing a multimedia application could have a file with the script or story board linked to separate files

containing sounds, graphics, video, animations or any other type of data.

"I can build a presentation that points into my clip-art library without duplicating that clip art," Morrison said. This means that not only would the presentation take up less disk space, but each file could be edited separately.

Which data types to include and how to

represent time relationships are some of the issues that need to be resolved before MIFF can become a reality. Apple is calling on Mac developers to help define MIFF and plans to hold another developers' gathering in the fall to discuss the standard, Moore said.

"I've been dreaming of a compound document architecture for years," said Marc Canter, a MIFF supporter and chief scientist at MacroMind Inc., a San Francisco-based developer of multimedia software. "This could put Apple ahead of everyone else in the industry in terms of multimedia." □

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FastTrax stores CAD drawings

By Cliff Lehman

Anaheim, Calif. — Du Pont unveiled a new high-end Mac IIx-based system for the electronic storage and management of engineering and architectural drawings and data at the AEC Systems '89 show here this month.

The FastTrax System uses Du Pont-developed software and third-party hardware to

scan hard copies of drawings, then index, store and, if desired, output the images.

Scheduled to ship Aug. 1, the system has two modules: the Input Station and the Access Station.

Components of the Access Station can include a Mac IIx with 8 Mbytes of RAM and an 80-Mbyte hard disk, a 24-inch direct thermal plotter, a LaserWriter IINT, and a

Relax Tower optical storage system combining a 600-Mbyte hard disk, a 600-Mbyte rewritable optical drive and a 600-Mbyte WORM drive.

Prices for Access Stations range from \$55,000 to \$85,000 depending on the components needed. Cost drops as seats are added, with a four-seat Access Station priced from \$140,000 to \$180,000.

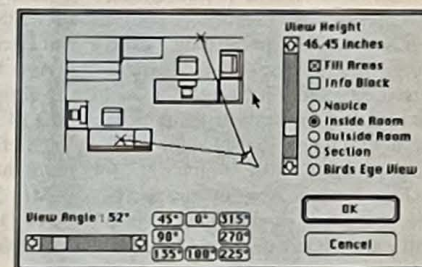
Input Stations cost \$100,000 to \$270,000 depending on the options chosen. They include the same Mac IIx and Relax Tower as the Access Station and options such as a

42-inch-wide Vidar scanner, a Wicks & Wilson aperture card scanner or a Fujitsu 11-by-17-inch scanner.

FastTrax's database, which resides on the system's hard disk, allows users to annotate drawings, and supplies indexing and filing locations as well as keyword descriptions for the retrieval of drawings and documentation. Revisions and as-built versions of drawings are also tracked by the program.

For more information, contact Du Pont FastTrax System, Eagle Run, Newark, Del. 19898; (302) 733-9200; (800) 345-9999. □

WHEN YOU COMBINE TYPE RESOURCE WITH T[®] TECHNOLOGY?



Microspot's \$295 MacInteriors interior design package has an eye in its perspective view that can be manipulated to get a view of a room from any height or angle.

AutoCAD add-ons lead AEC '89 bill

By Cliff Lehman

Anaheim, Calif. — The AEC Systems '89 show here this month provided ample evidence of the Mac's growing importance in the CAD arena. Among the vendors demonstrating new products at the show were:

► LandCADD Inc. showed Mac versions of several modules of its AutoCAD add-on package, LandCADD. Site Planning and Landscape Design costs \$695, Irrigation Design costs \$595 and the complete set of CADD Construction Details lists for \$895. All modules ship next month.

► Ketiv Technologies Inc. introduced two AutoCAD enhancement products. KETIV/AutoCAD Standard Template Version 1.0 (KAST) is a tablet overlay and software program that provides users with more than 75 AutoLISP routines and utilities to automate drawing functions.

Ketiv also introduced ARCHT2, a version of KAST with additional architectural design features. KAST, priced at \$150, and ARCHT2, priced at \$395, are scheduled to ship in September. Both products work with mouse and pull-down menus as well as with digitizing tablets.

► Versacad Corp., a pioneer in the Mac CAD market, demonstrated for the first time Version 2.1 of its VersaCAD/Macintosh Edition. The \$1,995 program, which began shipping last week, has improved dimensioning capabilities and more geometric construction tools, as well as faster performance during refresh, zoom and pan operations.

► Microspot Ltd., the maker of MacPlot plotter drivers, showed off a low-cost 3-D interior design package that the company is aiming at more casual CAD users. MacInteriors, priced at \$295, allows users to create 3-D room layouts and to view the drawing from plan, elevation or perspective views.

LandCADD is at 7519 E. Highway 86, Franktown, Colo. 80116; (303) 688-8160. Ketiv is at 6645 N.E. 78th Court, C-2, Portland, Ore. 97218; (503) 252-3230. Versacad Corp. is at 2124 Main St., Huntington Beach, Calif. 92648; (714) 960-7720. Microspot Ltd. is at 21060 Homestead Road, Cupertino, Calif. 95014; (800) 272-5533. □

Mindscape puts Zing into 3-D modeling

By Connie Guglielmo

Northbrook, Ill. — Mindscape Inc. this month plans to ship a 24-bit color, 3-D graphics program designed for desktop publishing and presentation users.

The \$199.95 program, called Zing, was developed by Chicago-based Enabling Technologies Inc. and borrows most of its technology from Enabling's Pro3D solid-modeling program.

Like Pro3D, Zing lets users create, shape and shade 3-D objects in full color. Tools include the lathe, which lets users create a solid object by rotating two-dimensional outlines, and the profiler, or jigsaw, which creates two-dimensional cross-sections of objects that can then be turned into 3-D solid objects.

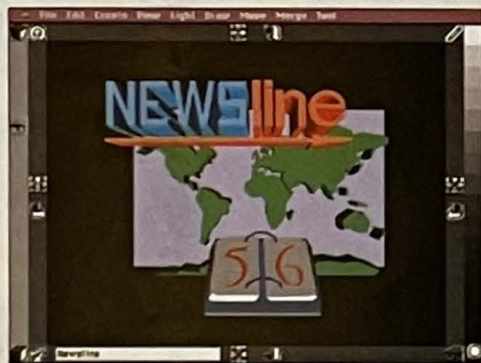
Objects can be multiplied, merged and mirrored. The program also offers direct and custom light sources that

can be adjusted for realistic effects.

New features offered in Zing include the ability to convert text into 3-D headlines and support for a variety of file formats, including PICT, tag image file format (TIFF) and Encapsulated PostScript (EPS).

As a bonus, Mindscape is offering Zing customers one free volume of Enabling's Clip3D Library. Each of the eight volumes contains more than 100 3-D images.

Mindscape Inc. is located at 3444 Dundee Road, Northbrook, Ill. 60062; (312) 480-7667. □



ZING, a 3-D graphics program for desktop publishing and presentation users, automatically converts text into 3-D headlines.

VBS offers 3-D charting package

Rasterizer extends output options

By Carolyn Said

Ramsey, N.J. — Visual Business Systems Inc. (VBS) is now shipping its \$395 charting package, Visual Business No. 5, bundled with Output Manager, a software rasterizer that lets Mac users print color PICT files to an array of high-end output devices.

► Visual Business No. 5 creates full-color charts and graphs and can rotate them in 3-D space.

"No. 5 offers sensational 3-D graphics," said Don Cohen, president of Cimarron Productions, an audio-visual company in Aurora, Colo. The program creates bar, line,

pie, area, scatter, double y, x-y and text charts. Data can be typed or pasted in or imported as SYLK files.

No. 5 requires special vector fonts. It ships with 13 of them from four type families, and an additional 22 are available for \$195.

► With Output Manager, users can print to film recorders not previously supported for the Mac, including Agfa Matrix's QCR-Z, PCR, Procolor (general purpose interface bus, or GPIB, interface) and Forté; Management Graphics' Solitaire; and Crosfield Dicom's Captivator and D148. Color thermal printers supported for the first time include the Mitsubishi G650 and Calcomp ColorMaster.

Output Manager also prints to film recorders and printers for which other Mac drivers have been

available, including Mirus Corp.'s Mirus, Presentation Technologies' Montage, Agfa Matrix's Procolor (SCSI interface), Lasergraphics' LFR film recorders and the Matrix TT200 and Tektronix 4693D printers.

To use some of these devices, Centronics or GPIB interface boards and cables from

National Instruments Corp. must be installed in the Mac.

Output Manager is an application, not a Chooser-level driver. To print, users open it, select files to print, preview and rearrange them if desired, then choose an output device and associated print options.

"On a stock Mac II, the average image can take six to nine minutes to rasterize," Cohen said. VBS said a maintenance update expected in a month should improve those speeds fourfold.

VBS also hopes to develop a professional-level Output Manager targeted at service bureaus, VBS President Ken Conlon said.

VBS is located at 700 Lake St., Suite H, Ramsey, N.J. 07446; (201) 327-3174. □

Radius monitor gets SE/30 interface

San Jose, Calif. — Radius Inc. last week announced a Mac SE/30 video interface for its Full Page Display, making the best-selling portrait monitor compatible with the entire Mac line.

The FPD-SE/30 Video Interface, including a dealer-installed card for the SE/30's Processor Direct Slot, cables and RadiusWare software, will list for \$595. The Radius Full Page Display, a 15-inch monitor with a resolution of 640 by

864 pixels, or 77 dpi, a refresh rate of 69 Hz and a built-in tilt-and-swivel base, costs \$895.

RadiusWare software includes a screen-capture utility and options for tear-off menus, an enlarged menu font, a 13-by-11-inch virtual screen and a cursor locator that marks the cursor with a flashing circle.

Radius Inc. is located at 1710 Fortune Drive, San Jose, Calif. 95131; (408) 434-1010. □

The Odyssey 2000 kit from Odyssey Systems can transform a Mac Plus, SE or SE/30 into a portable presentation machine with a Kodak HR/M Datashow projection pad as the display.

Odyssey 2000 kit turns Macs into portable presentation boxes

By Jonathan Perrow

Boise, Idaho — Odyssey Systems this month became the third company to announce a conversion kit that promises users a way to pack a desktop Mac into a portable.

The Odyssey 2000, priced at \$2,195, is designed especially for the presentation market. It features a Kodak HR/M Datashow projection pad as its display system. The detachable 512-by-342-pixel screen

can be used on an overhead projector during presentations.

The box, which measures 15 by 16 by 6 inches and weighs 23 pounds, requires power from an outlet, since it is not equipped with a battery.

Scheduled to ship at the end of this month along with a custom carrying case, the Odyssey 2000 kit will include everything except screwdrivers that a Mac Plus, SE or SE/30 owner needs to convert a Macintosh into a portable.

An adapter board for installing an internal hard drive in Mac Plus models is included. A hard drive option will be available from the company, but the price has not yet been determined.

Also due this month is the \$1,595 TravelMac from NexSys, a battery-operable unit with a 640-by-400-pixel display and an optional internal modem. The TravelMac will be sold through Softsel Computer Products of Inglewood, Calif. (see MacWEEK, May 2).

Akkord Technology Inc. has also announced a \$2,500 Laptop Upgrade Kit, which can accommodate the motherboard of any Mac, even a Mac II, according to the Taipei, Taiwan-based company (see MacWEEK, April 18).

Odyssey Systems is located at 2711 S. Fry, Boise, Idaho 83709; (208) 362-0023. □

MacWEEK

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☐ 03. Research and Development
☐ 04. Graphic Arts
☐ 05. Communications: Publishing, Advertising, Public Relations, Promotion
☐ 06. Government: Federal
☐ 07. Government: Non-Federal
☐ 08. Manufacturing
☐ 09. Education
☐ 10. Finance: Banking, Accounting, Insurance, Real Estate
☐ 11. Health, Medical, Legal

- ☐ 12. Retail, Wholesale, Distribution
☐ 13. Agriculture, Mining, Construction, Oil, Transportation, Utilities

Computer Related

- ☐ 20. VAR/VAD
☐ 21. Retailer/Distributor
☐ 22. Systems House/Data Processing Service
☐ 23. Manufacturer (Computers, Software, Peripherals)
☐ 24. Computer Consultant
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☐ G. Sales/Marketing
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☐ I. Accounting/Finance
☐ J. Education/Training
☐ K. Science
☐ L. Consulting
☐ Z. Other (please specify)

4 Are there Macintoshes or other PCs listed below owned and/or planned for purchase within 1 year at this location?

- ☐ Yes ☐ No
 (Write in accurate quantity for all that apply)

	Currently Owned (Quantity)	Plan to Purchase (6-12 Months) (Quantity)
01. Macintosh II		
02. Macintosh SE		
03. Macintosh Plus		
04. Macintosh (Other)		
05. IBM/Compatible Micro		
06. Workstation (e.g. Apollo, Sun)		

5 If your firm's primary business at this location is retailing, reselling or consulting, how many Macintoshes are sold per year (answer one only):

- ☐ A. Retailer: sold per year _____ (specify quantity)
☐ B. Reseller: resold per year _____ (specify quantity)
☐ C. Consultant: Purchased by your clients through your firm's recommendations per year _____ (specify quantity)

6 Please check the Mainframe(s) or Minicomputer(s) at your location (check all that apply):

- ☐ 01. VAX ☐ 02. IBM ☐ 03. Other ☐ 09. None

Required: Company name and company street address must be written below or applications cannot be processed. Please print.

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Title										Business Telephone									
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Business Address																			
City										State					Zip				

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City										State					Zip				

7 Do you purchase, recommend, specify or approve any of the Macintosh/Compatible products listed below?

- ☐ Yes (If yes, please check all that apply) ☐ No

Computers

- ☐ 01. Macintoshes
☐ 02. Workstations
☐ 03. Minis, Mainframes
☐ 10. Local Area Networks
☐ 11. Modems
☐ 12. Micro/Mini/Mainframe Links
☐ 13. Communications Software

Peripheral Equipment

- ☐ 20. Laser Printers
☐ 21. Color Printers
☐ 22. Color Monitors
☐ 23. Hard Disks
☐ 24. Backup Systems
☐ 25. Plotter, Charting Devices
☐ 26. Scanners

Add-in Boards

- ☐ 40. Memory Boards
☐ 41. Graphic Boards
☐ 42. MS DOS Boards
☐ 43. Ethernet Boards

Software

- ☐ 50. CAD/CAM
☐ 51. Graphics
☐ 52. Desktop Publishing
☐ 53. Desktop Presentation
☐ 54. Database
☐ 55. Programming
☐ 56. Accounting, Payroll
☐ 57. Spreadsheets
☐ 58. Music
☐ 59. Project Management
☐ 60. Word Processing
☐ 61. Utilities

8 If you help purchase, specify, recommend or approve Macintosh Computers, software or peripherals, for how many MACs do you have this involvement over the course of one year?

- ☐ 01. 500 + ☐ 05. 10-19
☐ 02. 100-499 ☐ 06. 4-9
☐ 03. 50-99 ☐ 07. 1-3
☐ 04. 20-49 ☐ 09. None

9 Please indicate the communications capabilities that the Macintoshes at your location have (check all that apply):

- ☐ 01. Local Area Network
☐ 02. Communicate with corporate workstations, mini or mainframe computers
☐ 03. Communicate with remote mini or mainframe computers
☐ 04. Communicate via modem
☐ 05. Voice/Data
☐ 09. Other (please specify) _____

10 Indicate how many employees there are in your entire company (check one only):

- ☐ 01. 1000 or more ☐ 02. 100-999 ☐ 03. Under 100

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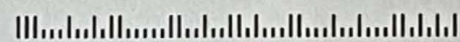
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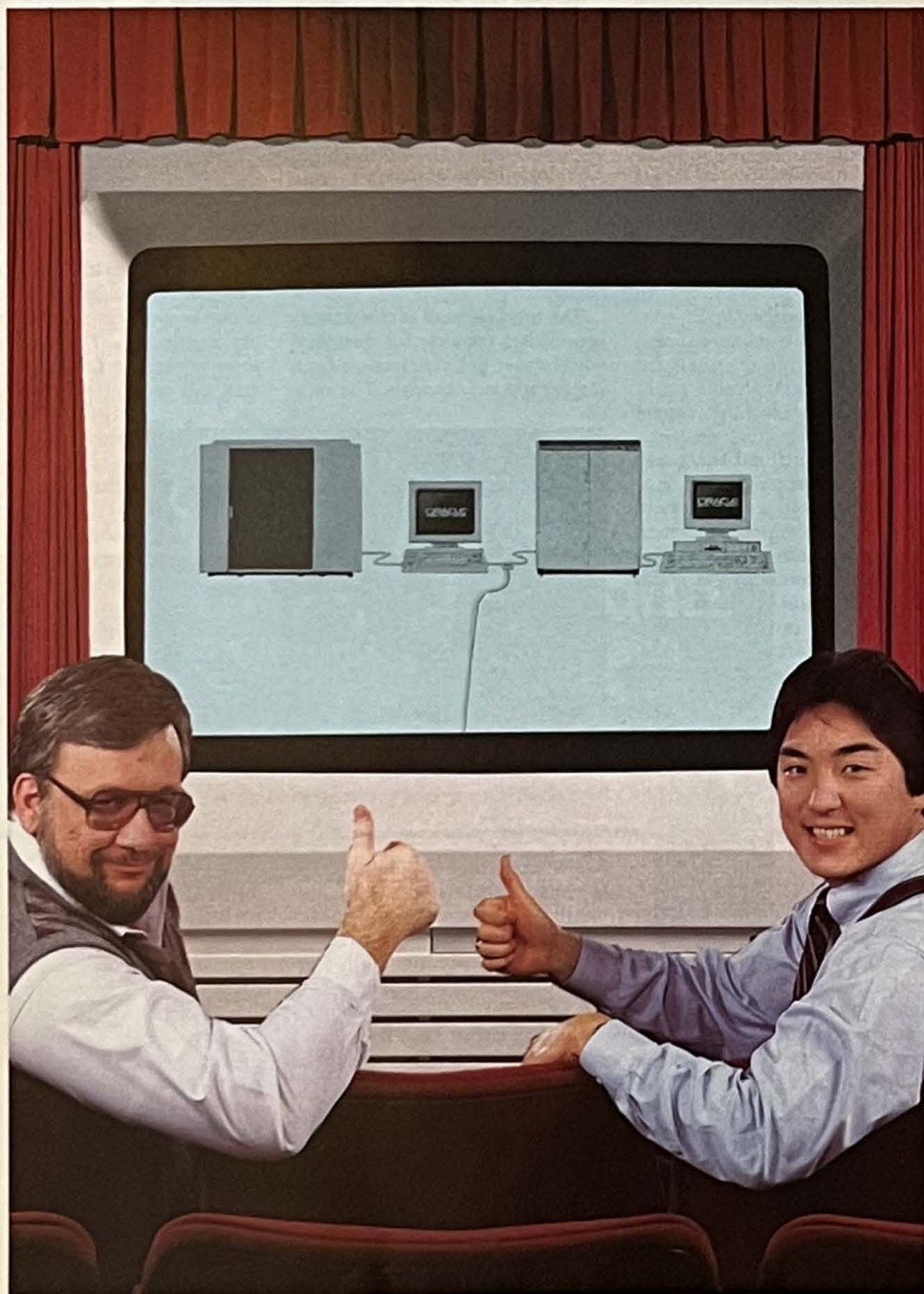
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MacIS wish list

Communications and networking

Improved network tools:
 •Diagnostics and alerts
 •Security features
 •Central backup
 •Ability to control access to resources
 •Software distribution via network

Increase LocalTalk speed
 Improve TCP/IP support
 Improve midrange support
 Conform to ISP model

Support and service

Modify dealer strategy
 Strengthen Apple sales support
 Provide hot line

Focus on solutions (not boxes)
 Enhance corporate Apple Support Coordinator program

Software

Integrate security into OS
 Provide multitasking
 Improve OS error handling
 Improve OS upgrade stability
 Clarify HyperCard strategy

Hardware

Don't abandon installed base
 Provide higher-capacity printers
 Provide modular low-end CPU
 Laptop weight is key factor
 Provide large/fast backup from Apple

MacIS

From Page 1

desktop computer support for Union Carbide in South Charleston, W. Va.

Many of the proposals call for products that Apple is likely to provide in any case. But some, such as a request that Apple de-emphasize resellers in favor of more national accounts, could put the group on a collision course with Apple.

"We aren't going to be able to do everything," said Allan Loren, president of Apple USA. "I'd like a \$2,000 Maserati, too, and while I might be able to get a car for that price, it won't be a Maserati."

"In order to have influence, MacIS has to package its requirements in a way that's usable," he said. "It has to understand where we have our stakes in the ground."

The impetus for the group came from Apple's own information systems department, according to Judy Straube, Apple's official liaison to MacIS. Apple has pledged financial support through September 1990.

However, both MacIS and Apple officials insist that the organization will be entirely independent from Apple.

"Despite the initial financial support, we won't have any trouble looking Apple in the eye," said Young. "The relationship is open and honest."

But analyst Stewart Alsop, publisher of P. C. Letter and an invited speaker at the meeting, said that accepting financial support from Apple was problematic. "If MacIS is seen as a captive organization to Apple, then it won't get the membership."

To join MacIS, Mac managers must have responsibility for 100 or more Macintoshes integrated in heterogeneous networks. Under

the bylaws, a company can designate one MacIS member for each 100 Macs it owns. Membership costs \$500 a year, or \$1,500 for up to five members from the same company. Ray Palkovic, administrative vice president of GTE, said he expects membership to grow to about 300 in the first year.

MacIS officials played down any competition between the group and the Apple Professional Exchange (APX), an organization of professional Mac users, including many in large corporations.

However, APX President Mike Bailey of Lockheed, who attended the conference, said the two groups had similar missions. "MacIS is ahead of the curve in its model of how Macs are integrated in corporate computing," Bailey said. "The innovators in Mac technology aren't in IS but in end-user departments."

MacIS will publish a newsletter, maintain a private AppleLink forum, carry out research and hold two conferences per year. The next MacIS conference will take place in Dallas Nov. 6-8.

MacIS headquarters is located at 111 E. Wacker Drive, Suite 600, Chicago, Ill. 60601; (312) 644-6610. □

Support

From Page 1

Some Mac managers attending the MacIS Inaugural Conference were willing to give the strategy a chance. "I believe in self-sufficiency with my own users, so it may be OK," said Chuck Wall, director of information management for GTE Hawaiian Tel in Honolulu. "Still, Apple needs to recognize that I have spent several million dollars [on Macs]."

But others compared the strategy unfavorably with the policies of mainframe suppliers that regularly assign systems engineers to work full time at large customers' locations.

Allan Loren, Apple USA president, said that Apple would not put full-time support personnel in the field. "We can't station large numbers of people all over the country. That is not a business model that is sustainable," he said.

Instead, Apple will follow the model of the automobile industry, which depends on local dealerships to bear the main burden of service and support, Taradalsky said.

Like automobile manufacturers, Apple will provide channels for users to take unresolvable problems to higher levels if they cannot get satisfaction from their dealers.

Taradalsky outlined three key elements of the strategy. First, customers will be offered an array of choices to seek support services, including in-house corporate programs, traditional resellers and third-party support providers.

Each type of provider will have access to support tools, training materials, technical information and spare parts from Apple.

The Mac Fundamentals videodisc and Support Navigator CD-ROM, both of which are now in limited use within Apple, are exam-

ples of materials that will be made available. Another videodisc program dedicated to desktop publishing and presentations is forthcoming.

The second element of the plan is providing backup for problems that can't be solved through self-sufficiency. "We recognize that customers are putting Macs on mission-critical applications, so we have to be there to respond," Taradalsky said.

He said that Apple will serve the 5 percent of support problems that fit into this category with an "escalation process" in the form of phone support and similar services. The telephone service announced last week and programming assistance from units such as Apple Integrated Services are examples of backup.

The third element of the strategy is providing recourse for customers who cannot get satisfaction from regular support channels. The com-



Allan Loren: "Apple can't afford to station large numbers of people around the country. That's not ... sustainable."

pany has experimented with a recourse channel in a pilot toll-free phone support program for users in the Seattle area. The program will soon expand to Los Angeles and may roll out nationwide in fiscal 1990, Taradalsky said.

Loren said the three-part strategy will put Apple ahead of any other personal computer maker in providing support. "Supporting personal computers is a generic, not Apple-specific, issue. We offer a superior answer: We'll help users build independence." □



Apple's soon-to-be-released Mac Fundamentals system includes 12 hours of videodisc programming under HyperCard control.

Networking

From Page 1

a sense of humor," said one manager after viewing the presentation.

Managers in multivendor sites were impressed with Apple's commitment to connectivity but wary of the company's delivery and support plans. "There are some real products here, but it's just a first step," said Richard Mandelbaum, vice provost for computing at the University of Rochester in New York.

Mandelbaum said that although Apple is now stronger on IBM and Digital Equipment Corp. connectiv-

ity, its support for TCP/IP and OSI (open systems interconnect), crucial to both government and university markets, was less than he expected. Casey officially announced those four environments as key to Apple's connectivity strategy. "My hope is that they have much more going on than they are telling us about" in both OSI and TCP/IP development, Mandelbaum said.

In support of TCP/IP, Apple announced MacX, an X Window display server for the Mac operating system, and showed MacTCP, a previously announced toolkit for TCP/

IP development. Apple also introduced MacX25, which links Macs to packet-switched X.25 networks, as its first OSI-related product.

Some third parties, more than 20 of which are supporting Apple's announcements with products that fill gaps in both pricing and integration, were disappointed with the event. Apple did not provide third-party demonstration space, leaving several vendors, who came under the impression that they would be showing their wares, feeling slighted. But most vendors agreed that the event was Apple's turn to show off its most recent developments. "We've spent three weeks doing nothing but preparing for this [June 12 announcement]," said one relieved Apple official.

While Casey concentrated on Apple's biggest announcements, such as AppleTalk Phase 2, the CL/1 servers and the three NuBus boards based on the Macintosh Communications Platform, he also announced the Macintosh Communications Toolbox, a 3270 terminal emulation API (application programming interface), EtherTalk for A/UX and the Apple Data Modem 2400, among other products. □

Gassée blesses new C++ Release 2.0

By Jonathan Perrow

Baltimore — Giving Apple the green light to distribute anxiously awaited object-oriented development tools, AT&T has announced an enhanced version of the C++ Language System.

Release 2.0, introduced at the Usenix show here last week and scheduled to ship by the end of this month, will be AT&T's first officially supported version of the language.

"It's really good news for Mac

developers," said Tony Meadow, president of Bear River Associates in Berkeley, Calif.

An object-oriented programming language is one that allows data to be grouped into structured objects, which can inherit characteristics of other objects. Release 2.0 adds multiple inheritance, allowing an object to inherit characteristics of more than one other object.

Jean-Louis Gassée, president of Apple Products, said last week that

Apple has selected C++ as "a key programming language for use in writing [the] Macintosh operating system." Sources said Apple has been using a beta version of Release 2.0 to develop a rewritten Mac Finder but was waiting for the formal release before offering a C++ compiler that runs under the Macintosh Programmer's Workshop (MPW) and adding support for C++ to its MacAPP development environment. □

ANPA

From Page 1

paper publishing industry."

Among Mac-based products introduced or shown were programs for:

- ▶ Full-page newspaper layout.
- ▶ Ad layout and management.
- ▶ Wire-photo downloading and manipulation.
- ▶ News-story archiving.
- ▶ PostScript imagesetting.

The centerpiece at the Rivergate Convention Hall was the impressive Autologic booth, proclaiming "PostScript" on large signs to entering visitors and greeting them with an array of Macintosh hardware. The Thousand Oaks, Calif.-based vendor has added a \$35,000 PostScript support option (based on an Adobe Atlas PostScript RIP)

For the record

In the May 23 GA article "Imagesetters and trendsetters" by Clay Andres, MacWEEK incorrectly listed the price to upgrade a Linotype RIP 2 machine to a RIP 3 as \$26,000 — the actual list price for a new RIP 3. Linotype will upgrade RIP 2 machines for \$9,950 without a service contract and for \$8,950 if the RIP 2 is under a service contract.

to its high-end APS-6 typesetters.

PostScript got another endorsement when the host city newspaper, The New Orleans Times-Picayune, handed out free issues of its Sunday edition, which included elaborate four-color PostScript illustrations splashed on the front page and financial section. Val Cohen, Times-Picayune interim art director, said the paper had received the PostScript RIP from Autologic only two weeks earlier.

At the second hall, crowds flocked to the booth of Orem, Utah-based Digital Technology Inc., which showed two new products. PageSpeed is a \$15,295 pagination program for work groups or single users. A Mac II is included in the purchase price. DTI also showed a 100-line-per-inch scanner/recorder that will sell for \$14,995 when released.

Harder to find but well-attended nevertheless was the suite occupied by the Apple-supported Macintosh Newspaper Group. The group included Quark, Letraset, Aldus, Barneyscan, Howtek, Truvel, Silicon Beach, Media Publishing Group and Linotype. Apple itself had no booth.

New products on display included a wire-photo capture and archiving program from the Spanish company Anaya and a self-



Val Cohen (right), interim art director of the The New Orleans Times-Picayune, said the newspaper received a PostScript RIP from Autologic (whose president, Paul H. McGarrell is at left), only two weeks before using it to print elaborate four-color PostScript illustrations.

calibrating color monitor from Barco Corp., a Belgian company with offices in Nashua, N.H.

The stated intention of the Macintosh Newspaper Group is to show how "open systems pay off" thanks to "low-cost upgrades, a simple learning curve and constant system improvements."

Indeed, the variety of competitive products and the relatively nominal cost of installing them led

to some real astonishment. Sheldon Fisher, Silicon Beach product manager, said that after suitably impressing non-Mac-savvy art directors with the capabilities of Digital Darkroom Version 1.1, he would ask their opinion on what its price should be. "After their estimates of \$5,000 to \$10,000, you should have seen their expressions when I told them the true retail price: \$395." □

Classified ad bids for nuPrometheus code

Cupertino, Calif. — There has been no further word from the nuPrometheus League, the underground group that this month promised to leak proprietary Mac source code, but at least one party expressed a perhaps tongue-in-cheek interest in future mailings.

The league made headlines when it mailed disks containing code to Apple's Color QuickDraw and other secret files to MacWEEK and an undetermined number of others. Future mailings, the group wrote, could be obtained by placing an ad in MacWEEK or Bay Area Computer Currents in July.

Both publications said they would not accept such ads, but last week someone placed one in both San Francisco dailies, the Chronicle and the Examiner, under the "Personal Computers" heading.

"Like New. Prometheus modem. Redmond, Washington 98073. \$50. You supply the software. We'll supply the bug fixes," the ad states, but includes no street address.

Microsoft Corp. is based within the ZIP code mentioned. A Microsoft official said the company knows nothing about it. □

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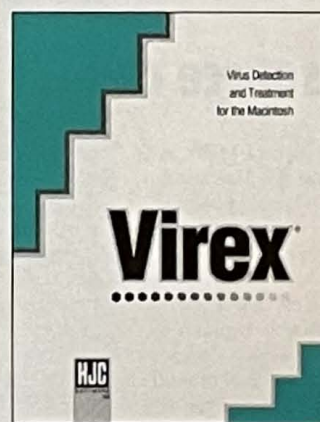
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Future Macs may get parity checking

Extra chip promises data reliability

By Jonathan Perrow

San Francisco — From the smallest PC to the fastest super-computer, parity checking is used to guard against undetected memory error. Until now the Macintosh has been the exception, lacking both the hardware and the operating system support required for parity checking.

But that will soon change, sources familiar with Apple's product development plans have said. Parity checking is targeted for inclusion in Apple's second-generation workstation, a 33-MHz, 68030-based Macintosh scheduled for introduction in January 1990.

The shift may come in response to pressure from federal buyers as well as Fortune 500 companies, where data reliability and security are critical concerns, according to some analysts.

"I'm surprised [that Apple] got this far in the government market without parity," said Andrew Neff, an analyst for Bear Stearns in New York.

Parity checking is a way to "watch" data written to or read from RAM and pinpoint the place where an error occurs.

To do this, an extra bit is added

How parity checking works

When an error occurs ...



to each eight-bit byte, keeping track of the number of ones and zeros and alerting the system if data in the byte change while in memory. This means that nine chips instead of eight must be built onto each SIMM (single in-line memory module), a familiar configuration to IBM PC users. Apple will manufacture the nine-chip SIMMs, which currently cost 12 percent to 15 percent more than their eight-chip counterparts, sources said.

"At the time we designed the Mac, there wasn't all that much RAM, so we didn't have to worry so much about memory errors," said Mike Boitch, a member of the orig-

inal Mac team and now president of Radius Inc. of San Jose, Calif.

Today, according to Apple, one such error can be expected, on average, once every 3.5 years in a 1-Mbyte system using 256-Kbyte dynamic RAMs. An Apple technical note posted on AppleLink said that the company would rather spend its money on faster and more reliable DRAM than on parity checking.

But a recent internal document said that parity checking will be offered in configurations of the 33-MHz 68030-based workstation equipped with 4 or 8 Mbytes of RAM.

Depending on how Apple imple-

ments it, parity checking could be coupled with other error-correction algorithms to allow the Mac to save data even after a memory error has occurred.

Although most developers and SIMM manufacturers had not heard of Apple's plans, they agreed that parity checking is important.

"Parity is definitely crucial in a solid business machine," said Roger Kasten, national sales manager for Newer Technology of Wichita, Kan.

Vince Bono, president of Clearpoint Technology of Hopkinton, Mass., said that alpha particles can zap memory and corrupt data. "It's an excellent idea for Apple to do it," he said. "There's a fundamental flaw in DRAM technology that leaves it susceptible to subatomic particles."

Mike Greene, president of Casady & Greene Inc. and developer of a forthcoming security application for the Mac called A.C.E. (Access Control Environment), said parity checking is high on his wish list. "It's no big deal if you're doing graphics and a bit changes on your screen," Greene said, "but if you're doing sensitive applications, you need assurance that your data is good."

But parity is far from becoming an Apple industry buzzword. Mark Daly, product marketing manager for Micron Technology of Boise, Idaho, which sells a parity checking add-on board for the SE/30, said, "Our biggest challenge has been educating the Apple market as to what parity is and why it's important." □

Dantz delivers Retrospect archives

By Henry Norr

Berkeley, Calif. — Retrospect, Dantz Development Corp.'s new backup and archiving application, began reaching users last week.

The \$249 package from the company that originally developed SuperMac Technology's popular DiskFit backup program, allows users to copy or move files from any volume that appears on the Mac desktop to storage devices from more than 30 leading manufacturers. The list includes optical drives, removable-cartridge hard disks, DC 600 and DC 2000 cartridge tape drives, 60- and 150-Mbyte streaming tape devices, and Bernoulli drives as well as standard Mac disks and file servers (see MacWEEK, Feb. 21).

The program maintains a catalog on the user's hard disk showing the location of all archived files. It also offers on-the-fly compression and encryption, password protection, scripting, and a calendar for scheduling unattended operations.

"It creates a single user interface across a variety of storage media," said Roy Roper, computer systems analyst at the University of Illinois at Champaign-Urbana and a beta tester of the product. "It's going to be a hit among network managers."

Dantz Development Corp. is located at 1510 Walnut St., Berkeley, Calif. 94709; (415) 849-0293. □

MacInTouch RICK LEPAGE AND RIC FORD

Who pilfered Apple's source code?

ISSUES & TRENDS

The largess of the Apple source code pirates in the nuPrometheus League is something to behold. Disseminating someone else's intellectual property wins points for chutzpah, if nothing else. As in the case of the "Peace" virus of last year, another Mac terrorist wearing the mask of benevolence has appeared out of the ether, showering us with gifts we never knew we needed.

The brazenness of this stunt, along with its illegality, almost guarantees that the perpetrator will not step out into the spotlight to claim credit, but there is also no accounting for the possibilities of a creative individual mind.

The nuPrometheus League seems to want to live in a world where software is free and CPUs grow on trees. The ideals are attractive, but they are just that: ideals that have little reality attached to them.

What could the group be thinking? That their actions would allow

anybody with a copy of MPW to be able to customize the Mac operating system to his heart's content? You would rather triple-click than double-click? No problem. Hack away.

Or maybe it feels that Apple has been too closed lately compared with the old garage days. Pass some source code look and feel around an imaginary network of salivating hackers and get the juices flowing.

The only problem is that we're not phone phreaking any more. Steve Jobs is in bed with IBM and Sculley's pulling down \$2.5 million a year. It's a different ball game.

Knock, knock, who's there?

The big question circulating the Mac nets is the identity of the group. A number of possible scenarios have suggested themselves:

► Considering the amount of source code that was distributed, attention is focused on Apple employees, some of whom would have access to such materials. While the nuPrometheus letter implies that the authors were "at Apple," it seems ludicrous that

people inside Apple would consider such an action, especially given the crackdown that will probably result from all of this.

► Our favorite, though improbable, scenario is the "lone gunman" theory. Some fervent, guts-and-glory-type Apple employee covertly lifted the source code and distributed it in the misguided hope that it would make it easier for Apple to prosecute any Mac clone manufacturers.

Mail copies of the disk to all possible clone manufacturers (and Microsoft and IBM for good measure) and you have a pretty good way to start legal proceedings when the first clone comes out. In this case, our hero sees himself decorated with the croix de guerre by Jean-Louis himself. Instead, the perpetrators might end up in front of a firing squad.

► More likely, it is probably a few young kids who stumbled on something and tried to "make a statement" in a feeble attempt to recapture the old hacker spirit of the 1960s. Regrettably, such a sad action does more to prop up the

negative image of hackers than anything else.

► The leak could also indirectly be Apple's fault. Who knows? Having seen the insides of other big corporations, it is entirely possible that the source code was lying around on some lightly protected AppleShare server. Maybe that, in combination with a telephone line into the network, made Apple's fruit ripe for the picking.

Big brother, that's who. Regardless of the disks' origin, developers at Apple will probably find themselves under the sharp end of a microscope at all times. Loyalty, trust and freedom will be in question from the top to the front door.

In many situations like this, there is a knee-jerk reaction to clamp down. Indeed, if the wrong people get their way, we wouldn't be surprised to see Macs posted at every exit within Apple, and people entering or leaving having their disks scanned for pilfered source code or dirty PICT files.

What did happen to the ancient Prometheus? In an unsanitized

version of the myth, after Prometheus delivered fire to the masses, the gods were so outraged that they chained him to a rock and dispatched a raven to pick at his liver for eternity. Expect a similar punishment if the Apple gods catch this latter-day code arsonist.

If the group was really searching for a mythological analogy for its actions, it might have been more apt to choose Pandora, a tired cliché for a punkish prank.

In the rest of the industry, as with last year's virus, some companies will be riddled with suspicion, others will smell a profit opportunity, and most will go on, regarding the pilfered source code as just another blip on the radar screen in an otherwise calm sea.

We welcome comments at MacWEEK, 4 Cambridge Center, Third Floor, Cambridge, Mass. 02142; (617) 497-2600. Electronic mail: CompuServe: (Ric Ford) 75056.1225, (Rick LePage) 75016.350; Delphi/PAN: MACWEEKBOS, MCI Mail: RUFORD, RLEPAGE, MACWEEKBOSTON; AppleLink (address "MacInTouch" in Subject): MACWEEK, MacNET: RUFORD, RICKLEPAGE, GENIE: MACWEEKBOS, Internet: RUFORD@CUPPORTAL.COM.

Once one person starts using color, everyone will want to. Thankfully there's plenty to go around.

Because there's the Phaser CPS Color Print Station. It's a 300-dpi thermal wax printer with a PostScript-compatible controller, which takes care of spooling and AppleTalk networking. The CPS also expands



for more printers, memory and controller cards. Or if you already have a Tek 4693DX, just add a Phaser CPS controller and you

add PostScript-compatibility.

The Phaser family from Tektronix. Bringing you beautiful, living Teknicolor. Call for the dealer nearest you, 1-800-835-6100, Dept. 2B.

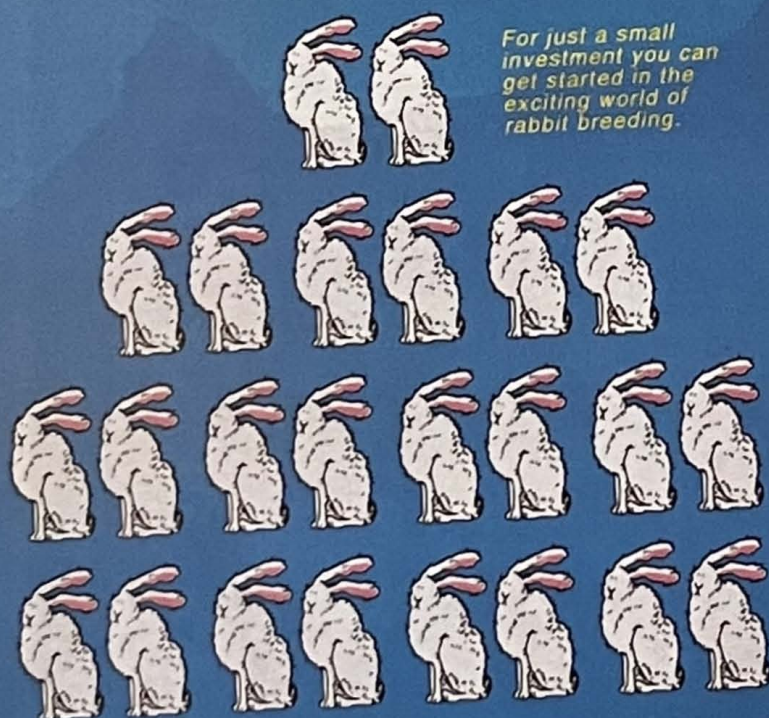


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Don Plant

Dep
Brian

Coordinator
Cindy Tate

90% of Macintosh spreadsheet users have been working on this program.

	1988	1987	1986	1985	1984
Selected Five - Year Financial Data <i>(In thousands, except employee and per share data)</i>					
Revenue and Costs					
Net Revenues	\$432,806	\$318,663	\$309,266	\$239,656	\$207,907
Cost of Revenues	79,809	165,570	58,344	40,710	40,215
R and D	79,809	52,361	33,081	21,420	20,676
Sales/Marketing	87,680	88,108	62,490	48,999	26,409
Gen Admin	27,653	18,537	12,594	7,306	4,520
Income from Operations	\$157,855	(\$5,913)	\$142,756	\$121,221	\$116,088
Non-op Income	7,804	6,639	3,715	2,008	1,387
Income Before Taxes	165,659	726	146,471	123,229	117,475
Provision for Taxes	67,092	294	59,321	49,908	47,577
Net Income	\$98,567	\$432	\$87,150	\$73,321	\$69,898
Assets and Liabilities					
Current Assets	223,579	112,622	79,282	44,256	44,055
Net Property	75,468	73,937	41,209	24,957	19,374
Other Assets	5,643	3,764	3,673	2,402	1,899
Total Assets	\$304,690	\$190,323	\$124,164	\$71,615	\$65,327
Current Liabilities	34,423	18,319	11,599	5,077	9,940
Long-term Liabilities	4,578	4,114	3,602	3,293	3,146
Stockholder's Equity	265,689	167,890	108,964	63,245	52,242
Total Liabilities and Equity	\$304,690	\$190,323	\$124,164	\$71,615	\$65,327



So have we. Introducing Microsoft Excel 2.2.

In 1985, not long after the Macintosh® was unveiled, Microsoft® Excel became the most compelling reason to buy one.

Within minutes, it became a standard on the Macintosh. Before we knew it, a full 9 out of 10 Macintosh spreadsheet users were swearing by it. Not surprisingly, they still are.



Used to be, 1MB was enough. Now with Microsoft Excel 2.2, you can take full advantage of the 8 megs in today's most powerful Macintoshes.

But, of course, we weren't satisfied to leave well enough alone—and Microsoft Excel version 2.2 has come to the small screen. In a big way.

In mathematical terms, 2.2 is greater than 1.5. In technical terms, your spreadsheets aren't limited to 1MB of memory—version 2.2 makes the most of even 8meg machines.

Which translates into spreadsheets of outrageous proportions.

Equally outrageous: 40% faster calculations—thanks to advanced intelligent recalc.

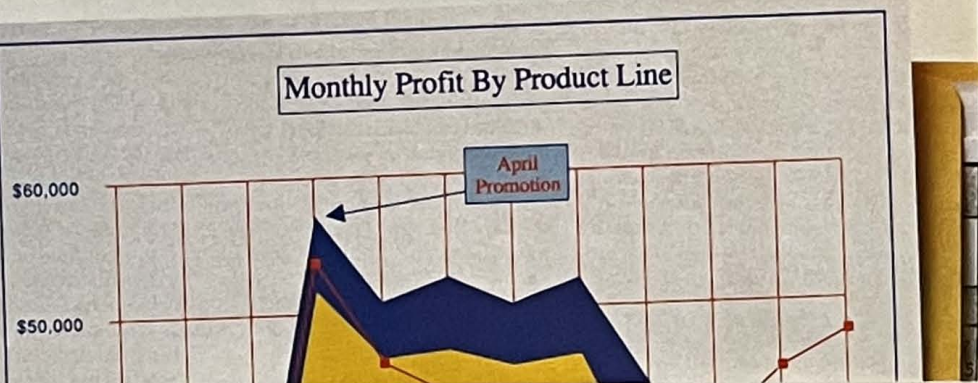
As for presentation? Version 2.2 also lets you highlight data in ways well worth highlighting: You can pick up to 256 different fonts per sheet, including up to six styles and eight colors. You can change row height. You can shade. And basically pack your documents with more visual punch than ever before.

Microsoft Excel version 2.2. Another improvement designed to make Mac® enthusiasts even more enthusiastic.



Something 90% of you are already used to. And you other 10% easily can be.

Microsoft
Making it all make sense.



SELECTED FIVE-YEAR FINANCIAL DATA				
(In thousands, except employee and per share data)				
	1988	1987	1986	1985
Revenue and Costs				
Net Revenues	\$432,806	\$358,663	\$309,266	\$239,651
Cost of Revenues	79,809	65,570	58,344	40,711
R and D	79,809	52,361	33,081	21,421
Sales/Marketing	87,680	88,108	62,490	48,951
Gen Admin	27,653	18,537	12,594	7,301
INCOME FROM OPERATIONS	\$157,855	\$134,087	\$142,756	\$121,221
Non-op Income	7,804	6,639	3,715	2,001
Income Before Taxes	165,659	140,726	146,471	123,221
Provision for Taxes	67,092	56,290	59,321	49,901
NET INCOME	\$98,567	\$84,436	\$87,150	\$73,321
Assets and Liabilities				
Current Assets	223,579	112,622	79,282	44,251
Net Property	75,468	73,937	41,209	24,951
Other Assets	5,643	3,764	3,673	2,401
TOTAL ASSETS	\$304,690	\$190,323	\$124,164	\$71,611
Current Liabilities	34,423	18,319	11,599	5,071
Long-term Liabilities	4,578	4,114	3,602	3,251
Stockholder's Equity	265,689	167,890	108,964	63,241
TOTAL LIABILITIES & EQUITY	\$304,690	\$190,323	\$124,164	\$71,611
Working Capital	189,642	173,468	127,766	119,441
Number of Employees	3,456	2,727	1,681	1,351
Common Stock Data				
Net Income per Share	\$1.13	\$1.64	\$1.94	\$1.91
Book Value per Share	\$4.56	\$3.56	\$2.29	\$1.41
Cash and Investments	\$2.65	\$1.60	\$0.83	\$0.61
Average Shares Out	87,535	83,258	44,956	38,611
Shares Out/Year-end	86,790	51,305	26,589	15,901
Key Ratios				
Return on Net Revenues	23%	23%	28%	31%
Return on Total Assets	32%	44%	70%	102%
Return on Stock Equity	37%	50%	80%	116%

Now pick from 256 fonts. Change row height. Shade. Add notes. And get used to the sound of applause.

MacBravo! to get facilities module

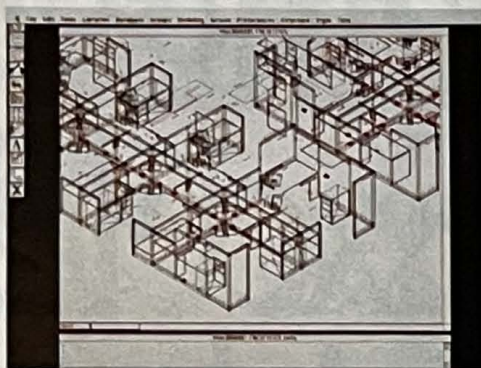
Handles plumbing, wiring, furnishings

By Cliff Lehman

Anaheim, Calif. — Schlumberger CAD/CAM this month announced MacBravo! Facilities, the third in its series of high-end CAD products for the Mac.

MacBravo! Facilities is aimed at facilities managers, planners, industrial engineers, architects, drafters and technicians involved in the design and operation of such aspects of a building as wiring, plumbing, office layout and furnishings. The \$4,900 application is scheduled to ship in the fourth quarter.

The introduction of Facilities reflects Schlumberger's approach of providing work group-oriented CAD programs optimized for specific tasks, the company said. The pro-



Schlumberger's \$4,900 MacBravo! Facilities allows a number of people to work on different aspects of the same project.

gram offers features designed for situations in which a number of people are working on different aspects of the same project, including:

- ▶ References, or independent overlays that alert facilities designers when, for example, a wall

has been moved.

▶ An integrated database management system that lets users associate information with the components in drawings of a facility.

MacBravo! Facilities' drafting environment provides isometric and plan views, automatic grid lines, automatic openings, and user-definable line

styles. The program can generate 3-D drawings from data entered into two-dimensional layouts.

Building and plant designers and managers can learn the basics of MacBravo! Facilities in about three days, according to Michael Smith, director of channels marketing for Schlumberger. Ease of learning and use is critical to the company's business strategy, he said, especially for penetrating the 44 percent of offices in this market that currently have no kind of automation.

"There's a big opportunity for products that give these people simplicity with functionality," Smith said. "The Mac buys simplicity."

A library of architectural and mechanical components is included, and an additional library called Plan Print is sold for \$495. An international graphic exchange specification translator is available for \$495.

Like Schlumberger's other MacBravo! products, Detailer and Modeler, Facilities contains a customization feature called Flexible Interface Tool.

Schlumberger CAD/CAM is at 4251 Plymouth Road, Ann Arbor, Mich. 48106; (313) 995-6000. □

16-inch color for SE/30

By John Battelle

Beaverton, Ore. — E-Machines this month rounded out its color offerings for the Mac SE/30 with the announcement of its TX SE/30 color display.

The TX SE/30, a combination 16-inch Sony Trinitron color monitor and eight-bit video controller, is the most compact of E-Machines' large-screen SE/30 displays. The company also offers 19-inch and 21-inch color models. The TX SE/30 features 87-dpi (1,024-by-808-pixel) resolution and a 72-Hz refresh rate. The video display board can be configured to run in one-, two-, four- and eight-bit modes for a maximum display of 256 colors on the screen.

The TX SE/30, which is scheduled to ship in August for \$4,495, will come standard with a tilt-and-swivel base, an anti-glare screen coating and a one-year warranty.

E-Machines also announced MoreCare, an extended warranty program for its 17-inch Big Picture monochrome and gray-scale monitors. Under the program, users can purchase two additional years of warranty coverage for \$150 a year within 30 days of product purchase. After 30 days, the cost is \$180 per year. The program is not available for the company's other monochrome, gray-scale and color display systems.

E-Machines is located at 9305 S.W. Gemini Drive, Beaverton, Ore. 97005; (503) 646-6699. □

AppMaker eases user interface design

By Jonathan Perrow

Lincoln Center, Mass. — Bowers Development Corp. is shipping AppMaker, a \$295 program that frees Mac programmers from having to write user interface code.

To design a user interface under AppMaker, a programmer simply arranges windows, menus, dialogs and alerts on the screen. AppMaker then generates C or Pascal code for that particular arrangement.

"The whole area of tools for interface design [on the Macintosh] has been incredibly lacking," said Dave Winer, president of UserLand Software in Menlo Park, Calif., and an AppMaker user. "AppMaker closes the gap between how I imagine a user interface and how long it takes to implement it."

Richard Duff, an operations research consultant based in Manassas, Va., said using AppMaker has cut down the time it takes him to develop interfaces for operations

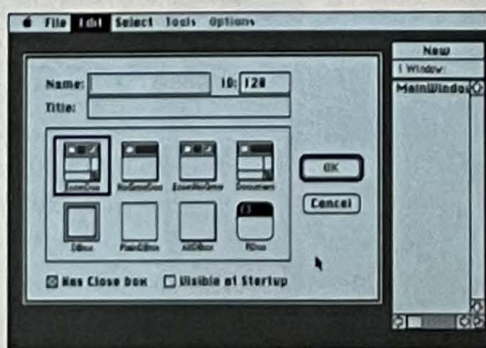
research applications from five workdays to one.

SmethersBarnes of Portland, Ore., offers a competing interface development package, the \$249 Prototyper. But AppMaker, users said, can be faster because it produces code for different parts of a program independently, rather than regenerating the entire code for an application every time a change is made.

Winer said he thought the Bowers package was best suited to in-house corporate developers. "Hand-coding can always give you a smoother interface, and by now many commercial programmers have invested years of

effort in learning the nuances of the Mac Toolbox," he said. "But for the in-house developer who needs to bang something out, this could be a great tool."

Bowers Development Corp. can be reached at P.O. Box 9, Lincoln Center, Mass. 01773; (617) 259-8428. □



Under Bowers' AppMaker, a programmer creates windows for an application simply by pointing and clicking on the desired selection.



News

BRIEFS

Storage Dimensions adds Ilcx internal drives to MacinStor line

San Jose, Calif. — Storage Dimensions last week added internal 45- and 90-Mbyte hard drives for the Mac Ilcx to its MacinStor line.

The MacinStor 45 Ilcx and 90 Ilcx, priced at \$1,099 and \$1,399, respectively, have average seek times of 27 milliseconds and data transfer rates of 10 Mbits per second, the company said. Both come with formatting, partitioning and diagnostic software; Central Point Software's PC Tools for Macintosh utility package; and a one-year warranty.

The new models use 3.5-inch drive mechanisms manufactured by Storage Dimensions' parent company, Maxtor Corp. Storage Dimensions offers the same drives for internal use in the Mac SE and the Mac II, as well as an external version, but the Ilcx requires a specially tooled bracket, according to the company.

"We've had tremendous demand for these drives," said Greg Brashier, manager of product marketing for Mac products at Storage Dimensions. "The Ilcx seems to have taken over the market, and so far only a few other vendors have drives for it."

Storage Dimensions is located at 2145 Hamilton Ave., San Jose, Calif. 95125; (408) 879-0300.

Master Wingz with help of third-party book

Lenexa, Kan. — Users of Informix's Wingz who can't find the guidance they need in the manuals that accompany the graphic spreadsheet program can now turn



to a third-party book for additional help. "Mastering Wingz," a 331-page paperback from Bantam Computer Books, is designed for first-time users of the program, according to Informix. It was written by Fred Davis, former editor in chief of MacUser magazine and currently director of PC Magazine Labs, and Elna Tymes, author of eight other spreadsheet books.

In addition to sections on Wingz's spreadsheet, database and graphing functions, the \$24.95 book includes case studies on using the program in environmental engineering, physics research, investment banking, legal work and live TV broadcasting of election results. The book also provides a brief overview on HyperScript, Wingz's application programming language.

Distributed through leading bookstores and software outlets, "Mastering Wingz" is also available by direct order from Bantam Electronic Publishing at (212) 492-9479; (800) 223-6834, ext. 9464.

Silverlining upgrade adds disk defragmentation, bundled backup

Tigard, Ore. — La Cie Ltd. has added a disk defragmentation function, a bundled backup program and several other enhancements to Silverlining, its hard disk formatting and partitioning package.

Version 5.0 of the \$69.95 utility allows users to create several types of partitions, including A/UX and ProDOS partitions as well as standard Mac volumes on the same disk. Space can now be left free on a partitioned disk, not assigned to any volume. Partitions can be re-sized later without data loss.

When formatting a drive, Silverlining 5.0 automatically checks the drive and Mac configuration to make the optimal choice from among the 12 driver types available. The DS Backup backup program from Design Software is included.

Silverlining is available separately or as part of La Cie Utilities, a \$149.95 package that also includes Silverserver, the company's \$99.95 disk- and modem-sharing program, and Silverplatter, a \$99.95 program for sharing other serial devices. La Cie Ltd. is at 16285 S.W. 85th St., Suite 306, Tigard, Ore. 97224; (503) 684-0143.

THE NEW 44MB BERNOULLI TRIUMPHS OVER TIME AND SPACE.



The new 44MB Bernoulli™ sets new standards in performance and capacity for Macintosh® power users—users who want the growth and flexibility of removable storage. Because now Bernoulli offers 22ms effective access time and unlimited storage growth, 44 megabytes at a time.

But performance and capacity are just the beginning. Bernoulli reliability is second to none. Bernoulli's unique design resists head crash, a fundamental problem of conventional hard disks. Bernoulli Disks™ can also withstand over 1000 Gs of shock. In fact, they're the only removable disks that can take a fall from a desktop without data



loss. And Bernoulli Disks and Drives provide product life equal to or better than conventional alternatives.

Backup is easy and fast. Bernoulli lets you make disk-to-disk copies in as little as 3 minutes for 44 megabytes. And since Bernoulli Disks are removable, you can organize your projects on individual disks and keep all of them under lock and key. Now your data can really go places, too. Bernoulli lets you share files between your Mac and PS/2™s, PCs and compatible computers,* and with Bernoulli's ruggedness you can send disks across the office or around the world with-

out concern. And whether for growth or sharing, the 44MB Bernoulli lets you add additional storage for under \$3 per megabyte.**

Those are a few reasons why Bernoulli is the overwhelming leader in removable mass storage, with over 400,000 drive systems and 2.75 million disks in use worldwide. More important, 95% of those users recommend Bernoulli. So see your nearest Iomega Authorized Reseller, or call 800-453-3303 for complete benefits and specifications.

IOMEGA®
Never ending storage solutions.

*Made possible with Iomega's Bernoulli File Exchange software. **Based on \$125 U.S. retail price per 44MB disk. Bernoulli and Bernoulli Disk are trademarks of Iomega. Macintosh is a registered trademark of Apple Computer, Inc. PS/2 is a trademark of IBM.

Sigma delivers gray-scale options with adapter card

Fremont, Calif. — Users of Apple's new 21-inch Two-Page Display will be able to turn it into a full-fledged gray-scale monitor with a new video card that Sigma Designs Inc. expects to begin shipping this week.

Sigma's Gray Scale Display Adapter card for the Mac II family, priced at \$1,899, delivers up to 256 shades of gray, while Apple's own \$599 card provides only 16 shades. The Sigma card offers what the company calls "full plug-and-play compatibility" with the \$2,149 Apple monitor, including an identical resolution of 1,172 by 870 pixels at 77 dpi.

Sigma also offers its own 21-inch monitor, the SilverView, featuring a standard 72-dpi display. The monitor is offered with monochrome, 16-gray and 256-gray display cards for the Mac II family in bundles priced at \$1,999, \$2,499 and \$2,999, respectively.

Earlier this month Sigma added a Mac SE version of SilverView, which is available now for \$1,999, including an SE expansion card.

The 16-by-12-inch SilverView systems offer a resolution of 1,152 by 870 pixels, a flat screen to reduce glare, a tilt-and-swivel base and a one-year warranty.

Sigma Designs is at 46501 Landing Parkway, Fremont, Calif. 94538; (415) 770-0100. □

MacIvory Model 2 improves speed by 75%

Symbolics' LISP board has revised Ivory chip

By Emily Brower

Burlington, Mass. — Symbolics Inc. has introduced a new, faster version of MacIvory, the company's LISP-based add-in board for the Mac II.

MacIvory Model 2 is 75 percent faster than the original version, according to Howard Cannon, Symbolics vice president. "The product's software is identical, but we've added a revised version of the Ivory chip," he said.

Symbolics' MacIvory board transforms a Mac II or IIx into a LISP-based workstation. The package, which sells for \$15,900, includes the new MacIvory Model 2 processor, Symbolics' Genera software for application delivery, 8 Mbytes of NuBus RAM and a keyboard overlay.

Companies like Analog Devices of Norwood, Mass., and ICAD of Cambridge, Mass., are using MacIvory systems to deliver Symbolics applications to the desktops of their employees and clients.

Chip-design engineers at Analog, which produces application-specific integrated chips (ASIC), run CAD tools originally developed for Symbolics workstations on Macintosh IIs with MacIvory installed.

Because the cost of a MacIvory system can be 80 percent less than comparable LISP workstations, Analog can offer more designers access to LISP-based tools, in addition to Macintosh applications such as databases, word processors and presentation software. Using MacIvory has given Analog a two-year lead over its competitors in the ASIC market, according to the company.

Abe Hirsch, vice president of ICAD, a software company that develops CAD programs for Symbolics workstations, said that

the company's MacIvory CAD modeling software, called the ICAD System, is better received among customers than the version of ICAD for stand-alone Symbolics workstations. "MacIvory provides a very interesting integration between a powerful desktop system like the Macintosh and a powerful system like a Symbolics workstation. There aren't any Unix machines that can offer that," said Hirsch.

Symbolics Inc. is located at 8 New England Executive Park, Burlington, Mass. 01803; (617) 221-1000. □

Abacus' SuperANOVA simplifies linear modeling

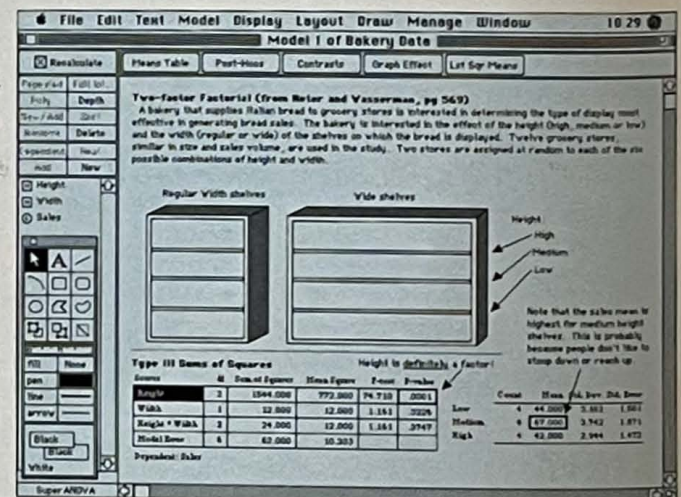
By Eric J. Adams

Berkeley, Calif. — Abacus Concepts Inc., developer of StatView, is adding a new statistical analysis program to its line of analytical software tools for the Macintosh.

SuperANOVA, due next month, is "a comprehensive general linear modeling package, comparable to SAS' GLM main-frame program," said Will Scoggin, Abacus vice president.

SuperANOVA differs from that program, according to Scoggin, in its ease of use. Users can create, modify and save model designs, as well as annotate and document designs in a MacDraw-like environment.

The \$495 package is targeted at researchers and engineers who perform ANOVA, ANCOVA, MANOVA, MANCOVA, and multiple regression on experimental data. The program performs contrasts, computes 12 post hoc tests in multiple output



Aimed at researchers and engineers, the \$495 SuperANOVA statistical program from Abacus Concepts offers general linear modeling in a MacDraw-like environment.

formats and can produce 20 types of graphs.

SuperANOVA is available in two versions, one for Macs with Motorola's 68000 processor and a second optimized version for Macintoshes built around the 68020 and 68030 processors.

Abacus Concepts Inc. is located at 1984 Bonita Ave., Berkeley, Calif. 94704; (415) 540-1949. □

MD MARS allows color PICT storage

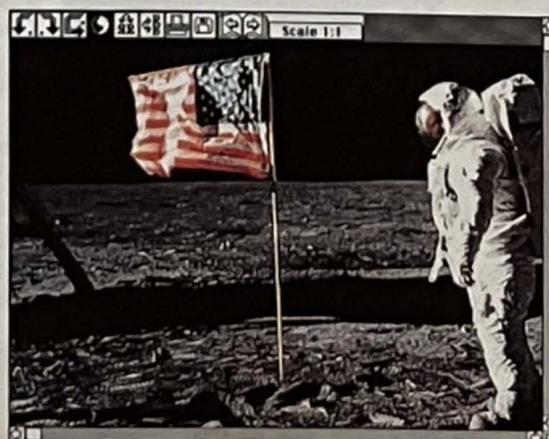
Silver Spring, Md. — Color images like the one shown below can now be archived with MD MARS, Micro Dynamics' document imaging, archiving and retrieval

system for the Mac. The system has been upgraded to allow users to store files in color PICT formats, including Apple's new 32-bit color format.

This new feature should give another boost to Micro Dynamics, which has already captured 35 percent of the mid-volume archiving systems market, according to Dataquest, the San Jose, Calif., market research company.

Micro Dynamics Ltd. is located at 8555 16th St., Suite 701, Silver Spring, Md. 20910; (301) 589-6300. □

A new feature of Micro Dynamics' MD MARS, its document imaging, archiving and retrieval system, allows users to store files in color PICT format, including Apple's 32-bit color format.



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StackWEEK ERIC ALDERMAN AND STEVE MICHEL

Moving from HyperCard to SuperCard

TIPS

SuperCard from Silicon Beach Software finally has been released, and by most accounts it's selling very well. As to making the transition from HyperCard to this new,

more powerful program, we'll leave the "whether" to a future column and begin in this column with some tips on the "how."

SharedFile. SuperCard comes with a special project called the SharedFile, which is

similar to HyperCard's Home stack. As with Home, all messages pass through the SharedFile, so you can place commonly used handlers and functions into its project script. Any resources, such as icons, sounds and XCMDs, can also be placed in the SharedFile and then accessed from within any project. Unlike the Home stack, however, the SharedFile has no visible cards; it is simply a repository.

One of the first things to do when making

the transition is import any resources that you've installed in your Home stack into the SharedFile, using the Import Resources command in SuperEdit, the development environment that comes with SuperCard. Switch to the Resources Overview by clicking on the big "R" icon, then copy all the resources you want. Finally, open the SharedFile project, switch to the Resources Overview and paste the resources.

Not all resources will be needed in SuperCard, so you should choose those that will help you in the new environment. Menu and windowing XCMDs won't be much use, but commands such as those that sort and find text are still just as essential as in HyperCard.

HyperCard icons. Importing the icons to which you've become accustomed — the Home, arrow and other icons — is also a useful thing to do.

For obvious legal reasons, Silicon Beach crafted a new set of icons with mostly the same meanings as HyperCard's, and many of them look great. Still, it can be disconcerting to see the look of a stack changed so drastically just by having a few icons look different.

To import the HyperCard icons, follow the procedure described above for importing the Home resources, only choose the HyperCard application instead. You'll notice that SuperEdit grabs some other resources as well, such as the menu resources. However, only the icons are of much value.

Even after you do all of this icon importing, you'll still want to check each of your icon buttons to be sure you approve of its assigned icon, since some of them will still get initially remapped to the new SuperCard icons. Do this checking in SuperEdit, since the SuperCard program itself has no facility for viewing all of the available icons. It would probably be possible to avoid this remapping by cleverly renumbering the icon resources in the SharedFile.

'Resource' vs. resource. SuperCard projects cannot have true resource forks, which is where HyperCard stores all resources within a stack. Instead, SuperCard stores its "resources," such as icons, sounds and XCMDs, in a special data format within the project. If you have any resources in your stacks outside of the five types that SuperCard understands (ICON, snd, XCMD, XFCN and clut), they must be placed into the SharedFile, which does have a resource fork. SuperCard does this copying automatically when you import resources.

Script peeking. SuperCard does not have an Option-Command-click script-peeking feature like HyperCard. However, you can write a handler that does a reasonable job of replicating the feature and then put it into the SharedFile.

To do this, write a mouseDown handler that checks to see whether "the optionKey is down" and "the commandKey is down". If they both are, you can issue an "edit script of the target" command, and then an "exit to SuperCard" command (to prevent any mouse-up handler from executing inadvertently).

The only catch in this is a bug that causes auto-hilite buttons to remain highlighted after the peek. To fix this, do a check after script editing to see if the name of the target contains "button". If it does, set its hilite to false (which it usually should be). — E.A.

If you have any tips or other HyperCard-related information, write us at StackWEEK, c/o MacWEEK, 301 Howard St., San Francisco, Calif. 94105. Electronic mail: MCI: STACKWEEK; AppleLink: D1507 (Steve) or D1577 (Eric); MacNET: MICHEL or EALDERMAN.

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Byron Wagner, Genius and Abaton founder.

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MACWORLD, November 1988

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Microsoft Office bundle promises 35% cost savings

By Jim Forbes

Redmond, Wash. — Macintosh software giant Microsoft Corp. is making another assault on the corporate Mac software market with a new bundle called Microsoft Office.

Introduced last week, Microsoft Office is a single retail package comprised of the latest versions of four popular Mac applications: Word 4.0, Excel 2.2, PowerPoint 2.01 and Microsoft Mail 1.37.

Microsoft Office is expected to ship next week and will be available only through Dec. 31, according to Laura Jennings, associate product manager for Microsoft.

Two of the programs in Microsoft Office, Word 4.0 and Excel 2.2, are recent upgrades to corporate-standard packages for Mac word processing and financial modeling. PowerPoint and Microsoft Mail are the Redmond, Wash., developer's entrants in two other emerging Mac markets: presentation graphics and electronic mail.

Microsoft Office's \$849 price tag is about 35 percent below the total suggested retail price of Word, Mail, PowerPoint and Excel 2.2, if purchased separately.

Corporate software analysts and software retailers reacted cautiously to the announcement of Microsoft Office.

The new bundle is most likely to be purchased in conjunction with new hardware, said Stephanie Keller, a systems analyst for Peat Marwick Main & Co.

Microsoft Office is more appealing to corporate MIS managers, who determine and enforce standards, than it is to individual users, according to Bobby Orbach, director of business development for 47th Street Photo in New York.

"For networked Macintosh users or corporations equipping new sites, it's a nice package," Orbach said.

A single card supplied with Microsoft Office can be used to register all four applications. Buyers can upgrade to new versions of the individual applications as they are released.

Also packaged with Microsoft Office is a coupon that allows users to buy \$199 worth of other software packages, including SuperPaint and AutoMac III, for only \$15.

Microsoft Corp. is at 16011 N.E. 36th Way, Redmond, Wash. 97017; (206) 882-8080. □

XXIS ships optical drive

Eden Prairie, Minn. — XXIS Corp., now in its fourth month of operation, is shipping its first read-write-erase optical drive for the Macintosh.

The 5.25-inch XY600RW has a capacity of 600 Mbytes, or 300 Mbytes per side, on each disk. Based on a Ricoh mechanism, the International Standards Organization-format SCSI drive has an average access time of 61 milliseconds.

The XY600RW, available now through resellers, costs \$4,995. Partitioning and password protection software are included.

The XY600RW is also available for the IBM PS/2, and a Sun model is under development. XXIS also markets standard magnetic drives for SCSI-interface computers in capacities ranging from 91 Mbytes through 638 Mbytes.

XXIS Corp. is at 7084 Shady Oak Road, Eden Prairie, Minn. 55344; (612) 944-8288. □

Symtec debuts with storage options

By Pamela Pfiffner

Knoxville, Tenn. — Symmetrical Technologies Inc. (Symtec), a new company headed by two senior engineers from the optical storage division of Perceptics Corp., has entered the mass storage market with a tape backup system for the Mac and an erasable optical drive for the Mac and for Digital Equipment Corp. VAX and Sun Microsystems computers.

The Symtec Most (magneto-optical storage technology) subsystem is based on a 5.25-inch Sony mechanism with an average access time of 95 milliseconds. The International Standards Organization-compliant drive, which has a formatted capacity of 594 Mbytes (297 Mbytes per side) appears as a standard volume with an icon on the desktop. It is available from Symtec or through retailers.

The 150-Mbyte Symtape tape backup system for the Mac consists of a quarter-inch tape drive, backup software, and necessary cables and documentation. Using a Cipher ST150 drive, the Symtape has a data transfer rate of 87 Kbytes per second. Available in early July, Symtape will be sold only through retailers.

Symtec has not announced pricing for either drive. Inquiries should be directed to Symmetrical Technologies Inc., 301 Gallaher View Road, Suite 231, Knoxville, Tenn. 37919; (615) 690-3838. □

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Restores backups from PC	YES	NO	NO	NO
Built-in macro	YES	NO	NO	NO
Scheduled macros	YES	NO	NO	NO
Multiple setup files	YES	NO	#	NO
Prints labels (ImageWriter & LaserWriter)	YES	NO	NO	NO
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* Most require a separate driver.
Allowed to save preferences, not multiple setup files.

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Letters

Mac's database abilities don't outdo System/55

The article by Elinor Craig, "Mac database helps daily win Pulitzer" (MacWEEK, April 18), states, "Copy still flows through the Coyote, but the large system doesn't have the Mac's database or calculation capabilities." This couldn't be further from the truth. In fact, the System/55, which was meant instead of Coyote in your article, has a database and calculation capability several orders of magnitude greater than a Macintosh. The intelligent Coyote terminals alone have at least the calculation power of the Mac and are based on the Motorola 68020 microprocessor.

The Mac is indeed finding many applications in newsrooms. However, the implications of your article go far beyond the bounds of the facts surrounding the Pulitzer.

Mark Forbes
manager, product marketing
System Integrators Inc.
Sacramento, Calif.

MacWEEK responds: We regret the implication regarding the Mac's capabilities compared with System/55, a minicomputer we acknowledge has far greater database and calculation capabilities, indeed. However, we note that SII has recently announced plans to include the Mac in its news publishing systems (MacWEEK, June 6).

HyperEngine stack approach too limited

It was with great interest that we read your comments about the MacWrite II help system ("How HyperCard help system stacks up in MacWrite II") in the May 2 StackWEEK. Our company was commissioned with the job of reconciling a number of design constraints and client requirements for the Claris help systems. We agreed with most of your remarks. However, we feel it's important to clarify the possibilities offered by the HyperEngine/Stack approach.

The HyperEngine command set is a very limited subset of the HyperTalk language. You cannot use any of the program control or branching commands available in HyperTalk. HyperDA was intended only as a stack browser. Your suggestion that pop-ups be implemented using a wait construction showed your HyperTalk expertise; however, "wait" is not supported by HyperEngine. Given this limitation, we believed that it was important for users to be able to show a pop-up and leave it on screen without having to keep a hand on the mouse. Also, HyperEngine does support HyperCard's Option-Command convention that lets you see "hot spots" on-

screen to find clickable items.

Although the learning curve for using the help system is not perfectly flat, we think that the compromises that were made are the ones that work best, given the design constraints. We think that, in the long run, these constraints are unacceptable. For the stack approach to be fully realized, we will eventually need to go beyond the limits of the HyperEngine command subset to be able to really do it right. Thanks again for your comments.

Dean Genge
Steven S. Smith
CommuniTree Group
San Francisco



Steve Michel responds: Dean and Steve's points are well taken. Creating a system such as this that breaks new ground requires that you work around both the limitations of the software you are using and the desires of your client (in this case, Claris). We had, indeed, forgotten that HyperDA did not support HyperCard's "wait" construction, and considering this, their choice was a good one. We also note that HyperEngine does support an "Open card" command that could have added context sensitivity to the help system, but that it was the choice, apparently of Claris, not to feature context-sensitive help. MacWrite II's help system is fast and informative, as we stated originally.

Check out Dow Jones' support before buying

I see from the May 16 issue of MacWEEK ("Dow Jones adds front end") that Dow Jones is coming out with another version of software designed for use with its databases. I hope any review you give this software will include an examination of the company's record of support for previous software releases.

StraightTalk, an earlier program designed to support Dow's database worked OK, but it was soon made obsolete by the frequent changes in the databases available from Dow Jones. The company offered an improved version of StraightTalk with much baloney because in addition to being current with the new databases, StraightTalk now had the capability

to download updates to itself. I think Dow Jones made no more than two patches available on-line, both within a few months after the publication of the new program. Its database still contains the most recent patch information, dated July 1987. Dow failed to keep the program current, as it advertised.

Six years ago, it published a promising program called Spreadsheet Link, which permitted the user to download information from Dow's databases into a MultiPlan spreadsheet. When Excel came out, Dow failed to upgrade the program to work with Excel.

I have purchased other Dow Jones software, including Market Analyzer and Desktop Express. In each case, the software has an interesting concept that is poorly realized. And it is not upgraded. Nor is it cheap.

Software purchasers are entitled to know this company's record of support before purchasing.

Terrence M. Walsh
Evanston, Ill.

Template package PDQ! not mentioned in article

I read the GA article "Page-layout templates ready for business" by Dennis Klatzkin (MacWEEK, May 23). I was surprised to see that our template packages Page Designs Quick! (PDQ!) and Page Designs Quick!5 (PDQ!5) weren't mentioned.

PDQ! has 120 newsletter templates, including 60 three-column and 60 four-column layouts. PDQ!5 has 225 layouts designed exclusively for five-column tabloid newspapers.

Philip A. Robbins, publisher
PAR Publishing Co.
Woodland Hills, Calif.

HyperWorks Organizer not mentioned enough

As one of the developers of the HyperWorks Organizer, I was disappointed with David Sternlight's review, "Managing to manage your office" (MacWEEK, March 21). In what was supposed to be a comparative review of the three products, HyperWorks Organizer was given only two paragraphs of coverage, while Focal Point II received seven paragraphs and Hyper-Action received 12 paragraphs.

Also, I was confused by the criticism of HyperWorks' interface as being too "simplistic," and yet the product was commended for its implementation of the three-ring binder metaphor because of its ease of use. Finally, Sternlight incorrectly states, "Focal Point was the original office management application." Our original program, Executive Life, was advertised (in MacWEEK's Ad Showcase) and shipped in November 1987, a few weeks before Focal Point.

James E. Teece, vice president
New West Software
Huntington Beach, Calif.



Editorial

nuPrometheus is a gift that burns

The individuals who stole and released Macintosh source code earlier this month modeled their escapade on the mythological figure Prometheus. But they are mistaken if they hope that the technology will spread like wildfire.

The literary Prometheus provided a technology, fire, that was a basic necessity of life for all individuals. The Macintosh ROMs were not created by gods, but by a company that invested large sums of money to develop a proprietary technology for the legitimate purpose of selling computers and making profits for its stockholders.

Computer users have benefited greatly from programmers who choose to place their creations in the public domain or who distribute programs as shareware. But those who believe that all software should be freely available are simply naive. While Apple and some other billion dollar purveyors of technology may have an altruistic streak left over from their humble and idealistic past, profits are the engine that drives the creation of great technology in this industry.

The irony of the situation is that the release of Macintosh source code may serve as an impediment to those who may try to clone the Mac. To legally reverse-engineer software, programmers can duplicate the functions of a program, but they are barred from disassembling or copying the actual code. Wide distribution of the Macintosh source code would give Apple a strong legal argument that the programmers of any future clones were influenced by their access to Apple's code.

The nuPrometheus episode involves MacWEEK beyond our usual interest in covering Mac news because the group's communiqué singled out this newspaper's classified advertising section as the vehicle for individuals to receive future code releases.

MacWEEK will not accept such advertising. To do so would be to facilitate the transfer of stolen property.

Nor will we use any information contained in the code as the basis for news stories. There is a clear distinction between the kind of information we sometimes publish about Apple's future product plans and that contained in copyrighted source code. Macintosh users have a reason to be informed about the product directions of a company; they have no legitimate reason for needing the actual code embedded in the Macintosh. □

MacIS off to a promising start

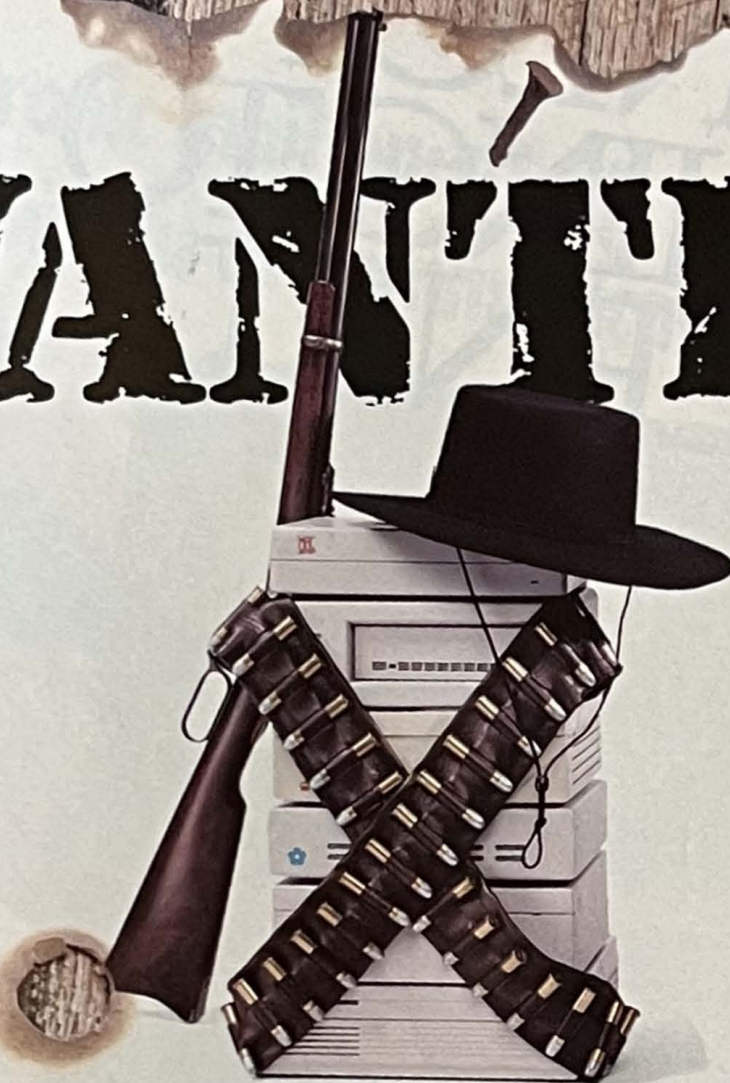
The formation of MacIS as a lobbying group representing Apple's largest corporate and educational customers is a welcome development. If the group fulfills its charter by becoming entirely independent of Apple, it will become a powerful voice in the Macintosh community for the special interests of Macintosh managers in large organizations.

At last week's inaugural MacIS conference in Chicago, the group identified a list of issues of special concern to organizations owning 100 or more Macs. At the top of the agenda is Apple's failure to provide direct technical support to large organizations, a deficiency that was further highlighted by the ambitious networking announcements the company made last week.

Apple's motivation in organizing MacIS appears to be sincere. Until the group becomes financially and organizationally independent, however, it will not assume the full stature it could someday command in the Macintosh community.

MacIS says it will become independent within one year. For now, it is off to a promising start. □

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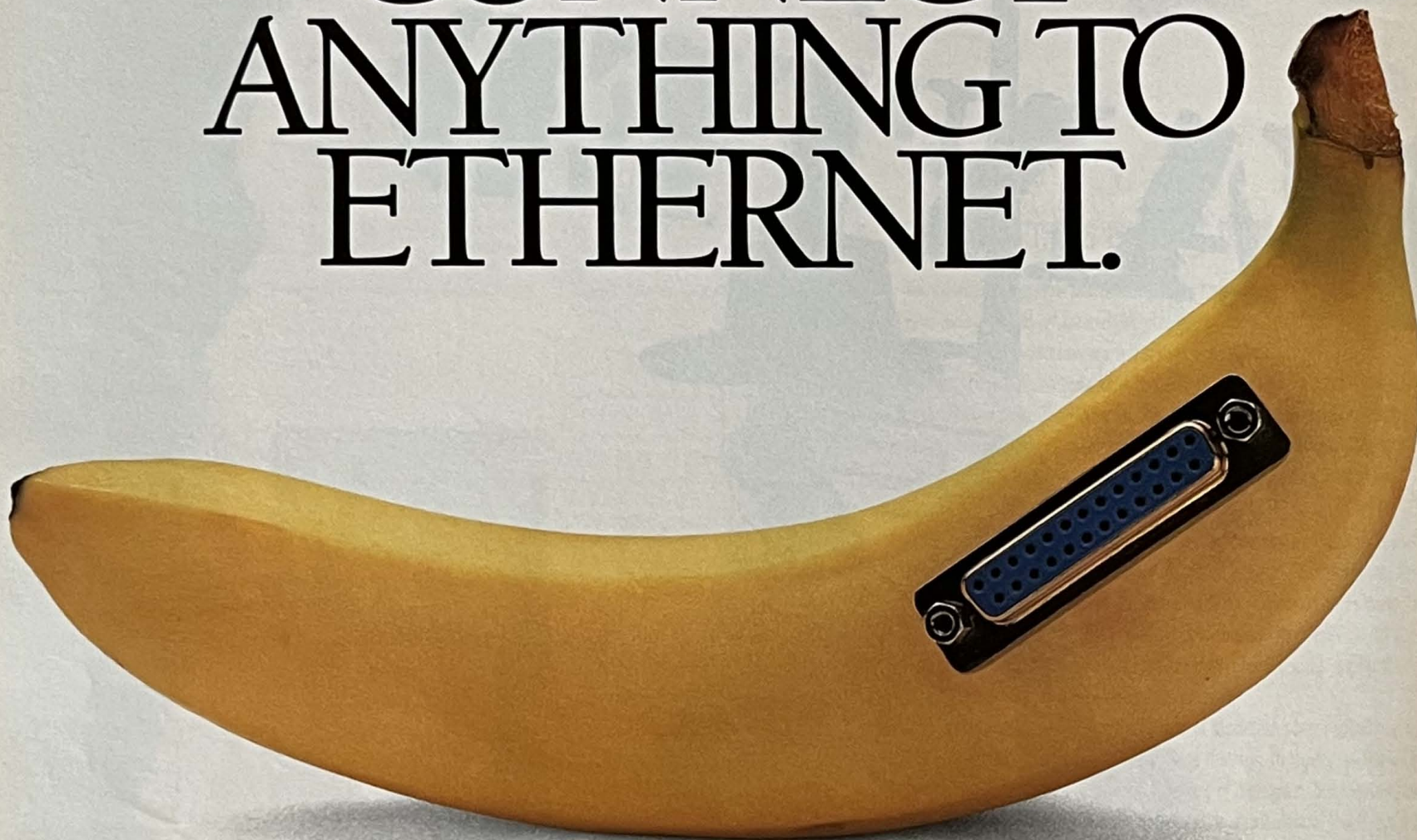
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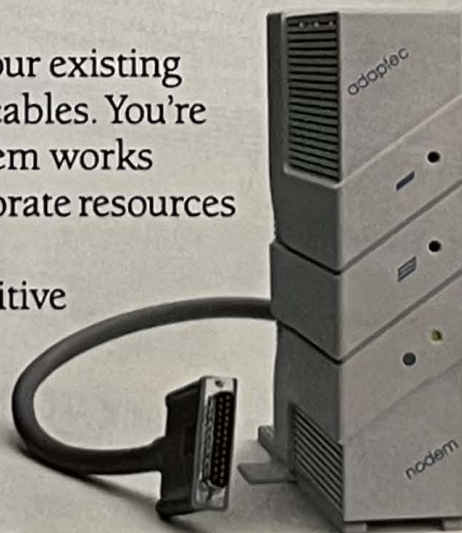
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Electronic mail opens up new world of communications

E-mail brings people together to solve problems — most of the time

By Robert Hollis

It was number crunching on a truly epic scale. The goal was to find the two prime factors of a monster number 100 digits long.

It was also the kind of problem that could have cost a bundle to solve using a supercomputer. Experts said that one of the world's most powerful machines would require two months to find the integers — divisible only by one and themselves — that when multiplied together would equal the 100-digit stumper.

Last October, however, the gargantuan problem was solved in just 26 days by a group of computer scientists led by Arjen Lenstra, a Dutch-born professor of computer science at the University of Chicago. The team used about 50 computers scattered across the United States, Europe and Australia to solve the problem using a novel method of distributed processing: electronic mail carried on the huge Internet network. E-mail allowed idle time on dozens of computers to be put to use cracking pieces of the monumental puzzle.

"If you can't do the problem alone, then you have to ask for help," Lenstra said of his novel E-mail project. "The only way to talk to all those idle machines was to use electronic mail."

For Bill Monteith, electronic mail has dramatically improved Armco Inc.'s ability to produce annual reports. "The productivity has been phenomenal."



CHUCK NACKE/PICTURE GROUP

Changing work patterns.

That scientists thousands of miles apart could coordinate, dismember, crunch and then reassemble a massive math problem using electronic mail illustrates one of the many profound changes in work patterns that are only now being triggered by this 20-year-old communications technique.

"E-mail is a fundamentally new communications medium," said Robert Anderson, a Rand Corp. researcher who, with Norman Shapiro, co-wrote "Toward an Ethics and Etiquette for Electronic Mail" for the National Science Foundation, a report often cited as the definitive study of the subject.

"It is the first time there has been a many-to-many communications medium. Never before have there been so many people talking to so many people. We believe this will change human behavior the way printing did."

Many social scientists agree, having discovered that E-mail actually renders the old rules of office politics and business hierarchies obsolete. Among the leaders in the research field are social psycholo-

gist Sara Kiesler and sociologist Lee Sproull at Carnegie-Mellon University in Pittsburgh.

According to Kiesler, one immediate effect of E-mail is its ability to eliminate much of the "phone tag" that is endemic among busy people. It also makes distance and time zone differences relatively unimportant, since users can move work over E-mail networks at will.

The two Carnegie-Mellon researchers plan to publish a book this year with results of six years of E-mail study. In it, they conclude that groups with E-mail produced better products than groups without it. But, cautioned Kiesler, the effective use of the medium requires hands-on management by an organization's top executives. Putting E-mail to use in a business should not be left only to information system managers, she added.

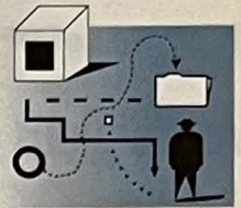
Room for abuse. E-mail offers powerful new communications tools, but it can also exacerbate ancient human foibles, said Anderson and Shapiro. Idle chitchat, gossip and off-color humor, once relegated to company lunchrooms or restrooms, now zip over computerized office networks. The ephemeral appearance of the medium is misleading. Feelings are often hurt, careers can be side-tracked and enmity is sown when private messages are read by the wrong eyes.

Likewise, with E-mail even the lowliest clerk in an organization can fire off a memo, an insult or a fan letter to the CEO, bypassing the layers of bureaucracy designed to insulate top executives from such unpleasantness.

E-mail sent in anger, and usually in haste, is called "flaming," one of several new terms that have

See E-mail, next page

One-minute MANAGER



Mac-Sun-PC network takes off at Harvard

Students at the Harvard Graduate School of Design in Cambridge, Mass., are experiencing the cutting edge of CAD and computer art as the university installs an advanced Mac-Sun-IBM network for their use. The network, currently being assembled, will be shown off this summer during Harvard's CAAD (Computer-Aided Architectural Design) Institute, an educational program that includes a Harvard/Massachusetts Institute of Technology-sponsored international conference, CAAD Futures '89.

The design school's CAD network will include one IBM PS/2 Model 80 and other PCs, Mac IIs, Sun workstations and a CAD system from Computervision with several terminals. A networked Mac II with 8 Mbytes of memory has been set aside as an image-processing workstation; it is connected to a Barneyscan scanner, a Howtek flatbed scanner and a Matrix Slidewriter. Students can trade 24-bit files back and forth between applications like Avalon's PhotoMac and Artisan on the Sun via FTP from Telnet.

"People can start out doing simple things on the Mac and then work up to more powerful machines very smoothly as the applications become more demanding," said Professor William Mitchell. Mitchell teaches electronic image processing at the graduate school and is co-chairman of CAAD Futures '89.

Students choose Mac. According to technical specialist Mark Rosen, who is setting up Harvard's elaborate network, the Macintosh is the machine of choice among students. "A lot of landscape architecture programs are written only for the PC, and we still use some PCs for word processing," he said, but added that the Macs have the richest variety of graphics and design applications available.

Graduate students in architecture and landscape architecture use the network for course work, including drafting, artistic renderings and image processing. Programs they use include PixelPaint from SuperMac Technology, ModelShop from Paracomp Inc., Silicon Beach Software's Digital Darkroom, THINK's Lightspeed Pascal from Symantec Corp., Letraset USA's ImageStudio, Claris' MacDraw II, and Aldus FreeHand and PageMaker.

"It's a very heterogeneous network. It's a way to get the diversity of software that we need," Mitchell said. "We also create a situation where we're not captive to one vendor or one technology."

CAD conference. In his role as co-chairman of the CAAD Futures '89 conference, Mitchell will provide an introduction to computer-based design. The four-day conference will include more than 30 classes for architects and landscape architects, with offerings such as "Interactive 3-D Modeling System for Spatial Design Studies," to be taught by an expert team from Japan's Kumamoto University, and "The Computerized Design Firm," to be taught by Harvard professor Fernando Catalano.

The CAAD Institute series also includes a professional development course, "The Electronic Design Studio," which Mitchell will teach with two MIT professors July 8-11, and four specialized CAD courses to be held during the week following the conference.

There is a conference fee of \$150 for CAAD Futures '89, tuition for "The Electronic Design Studio" is \$760, and the supplementary courses will cost \$675 each. A package deal for the entire CAAD Institute program, including two supplementary courses, is available for \$2,000.

For more information about the CAAD Futures '89 conference or the CAAD Institute program, write Harvard University, Graduate School of Design, Special Programs Office, 48 Quincy St., Cambridge, Mass. 02138; (617) 495-9340.

— By Mitzi Waltz



MICHAEL KEATING

Net Results

Apple plans offer more than just TokenTalk

Apple's series of connectivity announcements on June 12 was like a dam bursting. The broad spectrum of products, ranging from AppleTalk enhancements to hardware and software for connecting Macs to mainframes, will be a godsend to corporate MIS

managers who have been chomping at the networking bit. Although most of the attention will naturally focus on TokenTalk, other parts of the announcement will bear more-immediate fruit.

Specifically, I think that Apple's 3270 API

(application programming interface) as well as the NuBus-based communications cards and software will give users consistent access to mainframe data from their Macs. And that will allow the Mac to become the preferred machine for host-to-micro interaction.

In essence, we are looking at the ability to link the Mac to IBM 3270 mainframe applications in a way that is decidedly easier than is possible with IBM PCs and compatibles.

The 3270 API will provide a standardized high-level programming platform for both in-house developers and third-party vendors. This is something that Apple has been trying to get together for almost two years. And I have no doubt that MIS has been eagerly awaiting this piece of software for some time.

The lack of an API has been an impediment to continued Mac connectivity, a situation that I predict will change rapidly now.

APIs are critical because they provide a way for applications to link with other systems. An API call from a workstation can initiate processing at another location, thus allowing tighter integration between the micro and the host. With advanced front ends, such as those written using HyperCard, the developer can capitalize on the Mac's ease of use and consistent interface in a way that insulates the user from the complexity of the mainframe. For example, developers can use API calls to begin host processes.

Another component announced for host connectivity is the combination of Apple's Coax/Twinax NuBus communications cards with MacDFT software. The cards provide a sophisticated hardware link to IBM mainframes and minis running on SNA (System Network Architecture) networks. DFT (distributed function terminal) is an enhancement to standard IBM 3270 protocols that allows one machine to have multiple connections to mainframe applications.

I used this capability on IBM 3270 PCs when I was a communications systems programmer, connecting to databases, network management software and other applications simultaneously. Using MacDFT, a Mac can be connected to a host application, such as a database, and communicate over the network to other host applications at the same time.

With these announcements, Apple is looking at the Mac as more than a good vehicle for work group computing; it is finally pushing the machine into the MIS world. In tandem with the Communications Toolbox (and database access manager) of System 7.0, Mac users can more easily participate in the 3270 systems that are still the bread and butter of today's computing. □



BY PETER LISKER

We do windows.



Multi-windows, actually.

With PacerLink connectivity software, Mac users can manage multiple VAX jobs by viewing multiple concurrent terminal emulation sessions. Enter data in one window and your VAX host updates all others continuously, even under MultiFinder.

Using Mac techniques, you can adjust PacerLink windows as you please. Enlarge, miniaturize, stack or just stick them in a convenient corner to keep an eye on!

To make the VT100 and VT220 terminal emulator even more useful, we've built in programmable "softkeys" that allow complicated interactions to

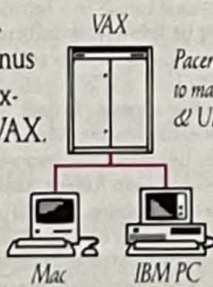
be executed with a single click.

Along with the pull-down menus and windows, these softkeys extend the Mac interface to the VAX.

Equally important, PacerLink integrates its terminal emulation with file transfer, virtual disk and print services to give you full functionality with one product. It connects IBM PCs (and compatibles) as well as Macs to

VAX (VMS and ULTRIX) and several UNIX systems.*

PacerLink is the core of a powerful family of integrated micro to mini



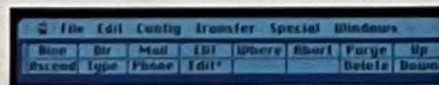
PacerLink connects Macs and IBM PCs to many hosts, including DEC VAX (VMS & ULTRIX) and several UNIX systems.

solutions. Add PacerShare, and you gain a VAX/VMS AppleShare-compatible file server that's completely transparent. Add PacerPrint, and users on either side of the network can access PostScript printers. With PacerGraph, you extend graphic emulation capabilities to the VT240/VT241 standards.

For more information on how you can plug your Mac users into

VAX power, call (508) 898-3300 or (619) 454-0565.

**Pacer
SOFTWARE**



User-programmable "softkey" macros allow long VAX command streams to be executed with a single click.

E-Mail

From previous page

entered the language since E-mail made its debut.

Growing universe. Across the country, between 7 million and 8 million workers, students and researchers use E-mail daily, said Michael Cavanaugh, executive director of the Electronic Mail Association, a Washington-based trade group. Meanwhile, he said, the E-mail user community is growing at an annual rate of between 20 percent and 30 percent.

Hundreds of U.S., Asian and European corporations already have vast and growing networks of on-line users, sometimes spanning thousands of miles via satellite. Indeed, businesses are the fastest-growing segment of the E-mail universe, experts say.

At the moment, many of these networks are incompatible or simply unconnected. But within a few years, perhaps before the turn of the century, a worldwide network supporting universal E-mail will be in place, experts

Continued on next page

From previous page

predict. "Kind of a global net," said Richard Adler, teleservices program director at the Institute for the Future in Menlo Park, Calif.

Increasingly, Adler said, large businesses with E-mail systems are discovering the power of "virtual companies" within their organizations. These are flexible work groups tied together electronically for specific purposes, he said.

Such groups already exist in dozens of companies, such as Armco Inc., a major steel company with facilities in New Jersey, Pennsylvania, Ohio, Missouri and Latin America. E-mail is carried on a Macintosh-based network using Microsoft Mail software, said Bill Monteith, corporate director of information resource management at the company.

According to Monteith, electronic mail gave Armco the ability to set up "cross-disciplinary groups."

"The time it takes to put out our annual report has been drastically shortened by the ability of the corporate communications, legal and financial departments, and the officers of the company to create, review and edit a copy of the report on their systems with E-mail," he said.

"The productivity has been phenomenal."

E-mail etiquette

Electronic mail is so new that many people have yet to develop a set of guidelines for using it effectively. Here are a dozen suggestions, an "etiquette" if you will, culled from interviews with longtime users and a report by the Rand Corp. for the National Science Foundation.

- Keep messages to a single subject. Then select a key word that describes the topic for the "subject" field in the message header.

- Be succinct. If an E-mail message runs longer than a full screen, it's probably better to discuss it orally.

- Keep the list of recipients to a minimum, if for no other reason than to avoid eating computer memory.

- Assume that the message you send will never be destroyed. Those containing trivia, gossip or personal cruelties may be saved permanently in dozens of remote systems.

- Use the inverted pyramid style to compose a message. Put the most important matter first and then the rest of the information in descending order of importance.

- Always label opinion clearly.

- Do not insult or criticize people without giving them a chance to respond in the same message.

- Avoid responding to criticism or derogatory comments when emotional. Such behavior is called "flaming." If a message generates emotion, wait a few hours and read it again before responding.

- Think about the level of formality in your message. Many users find that mail sent in haste is frequently misinterpreted. Additionally, it is difficult to express humor, irony or other emotions in an E-mail message. If you must express emotion, label it clearly.

- Be careful when responding. Don't send a reply to the sender and everyone on his or her cc list. Many E-mail systems require you to specify who gets the reply. Otherwise it goes to everyone on the original sender's list. It can be a profligate waste of valuable memory. — *By Robert Hollis*

United they stand. Virtual work groups don't necessarily have to work for the same employer, Adler said. "They can be a group of small entities that band together electronically to look like a big entity."

He cited the example of Hospital Distributors of America, a consortium of small hospital supply businesses that came together using a network called Ordernet to compete in a market increasingly dominated by huge national corporations.

"They banded together through a national integrated interface," he said. "A single elec-

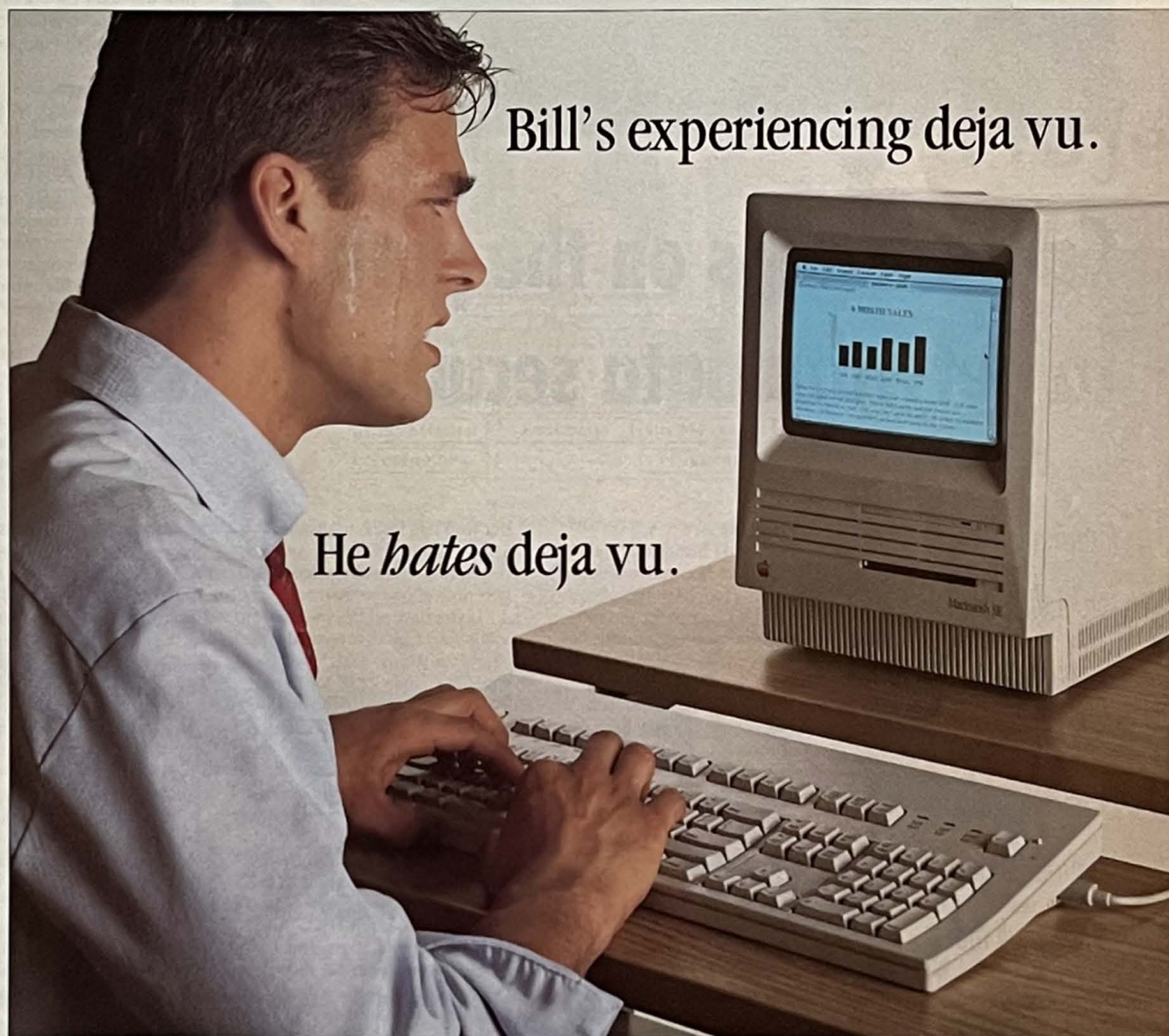
tronic order is then distributed" so that every member business gets a piece of the action. "They claim they provide the benefits of a big company with speed and higher quality services," Adler said.

E-mail is also coming to the masses, perhaps sooner than many people realize. Students in the graduate business program at Santa Clara University in Santa Clara, Calif., are beta testing a new service that San Francisco-based Pacific Bell plans to introduce later this summer across California.

The new communications medium hasn't

been a huge success among the 1,100 students in the program, said Barry Posner, university director of graduate education and coordinator of the beta test. Of the 800 or so who signed up for E-mail, only about 200 to 225 are regular users, he said.

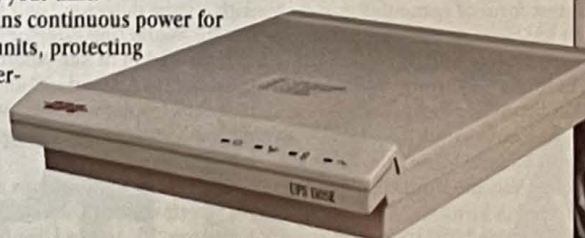
"It strikes me that people spend a great deal of time looking at the technology," said Posner. "I think an equal amount of time should be spent looking at the human aspect. I'd want a whole bunch of people with a problem communicating. Then this comes as a solution." □



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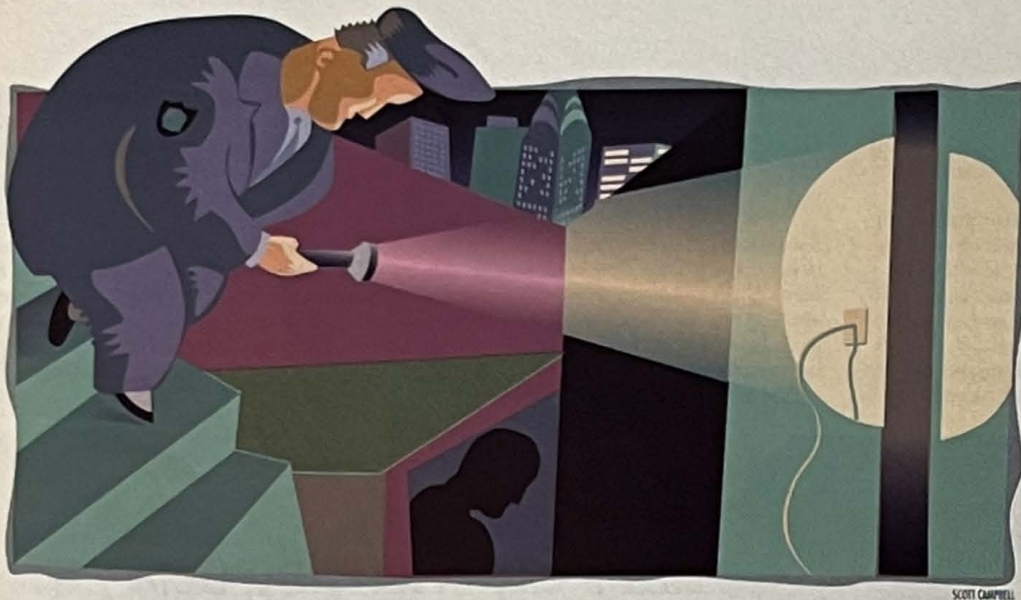
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Careful steps on the path to network data security

Information is the lifeblood of corporations, and that makes protecting information on a network all the more crucial.

By Emily Key

The world's businesses and universities have become increasingly interconnected via a web of computer cables, networks and modems. That vast communications infrastructure permits the easy exchange of information across continents and down the hall.

It also opens the way for a variety of threats to data security. These range from viruses to malicious sabotage to the accidental trashing of a crucial central file.

That possibility has forced MIS and microcomputer managers to balance the opposing concepts of providing easy network access for greater productivity against the need to take ever-greater steps to ensure data integrity.

Fortunately, several vendors have recognized the need to help MIS handle this balancing act. As a result, Mac managers have access to a booming market of products to ensure that information remains secure without placing undue strain on information availability.

The antiseptic approach.

For many people, viruses represent the latest form of computer crime. Much has been written about the issue, and concern has reached sufficient levels to warrant the wide availability of products designed to help wipe out viruses.

These include Virex from HJC Software, Vaccine from CE Software, Apple's Virus Rx, AntiToxin from Mainstay, 1stAid Software's Anti-Virus Kit and Symantec Anti-Virus for Macintosh (SAM).

Mike Bailey, systems integrator for Lockheed Missiles and Space Co. in Mountain View, Calif., said he uses Virex and Vaccine, which, he said, will find current viruses

but won't do much to protect against future problems. As a result, he's also testing some products not yet on the market.

"If you have all the vaccines available, chances are you'll detect [the viruses]," he said. "But [vaccines] take up a lot of software overhead, and they're only effective until the next strain comes along."

In fact, HJC Software offers a \$75 one-year subscription service for Virex that will help subscribers fight new strains.

"We have updated Virex four times during past six months to handle new viruses," said Robert Capon, president of HJC. "And with each update, the normal length of time from our receiving a new virus from a subscriber to our sending out the update is five days. Subscribers receive those updated disks automatically."

As a preventive measure, a number of companies have issued directives concerning application software downloaded from on-line bulletin boards.

"The first thing we tell [employees] is to test the software with a virus detector," said Bob Clarke, marketing director for the TOPS division of Sun Microsystems Inc. in Alameda, Calif. "The first catastrophe we have, we'll probably stop downloading from bulletin boards."

John Norstad, a systems analyst for Northwestern University in Evanston, Ill., wrote Disinfectant, a shareware virus detector. Norstad said he believes commercial applications are just as likely to harbor viruses as software from bulletin boards.

That's why Disinfectant warns users not to trust anything, not

even shrink-wrapped products, Norstad said.

Of course, network administrators can't be sure that every machine has been vaccinated unless they do it themselves. One product that will ease that task will be Version 3.0 of Farallon Computing's Timbuktu, due out this month. According to Tom Rielly, Farallon's director of marketing, Timbuktu will let users transfer files without using the server as an intermediary. That feature will allow the administrator to remotely run vaccination programs for all Timbuktu-equipped Macs.

Behind bars. Despite the problems viruses pose, they're far from the only threats to data. In fact, when it comes to data security, most industry observers maintain that companies have more to fear from their own employees.

"Most problems come from people inside the company innocently deleting a data file, which can destroy a whole system," said Lou Picciano, owner of Essex Systems Inc., a New York-area consultant and member of the Macintosh Consultants Network.

That was true for Sean McIver, a computer systems specialist with Jennings, Kepner & Hauge, a law firm in Phoenix, Ariz. Some files were accidentally deleted by people gaining access to unprotected Macs, said McIver. To help prevent that from happening to critical files, McIver uses the HD Partition utility included with Symantec Utilities for Macintosh (SUM).

"You can electronically chop off part of your drive and put a password on it," McIver said. "That way you have a section of your drive set aside with your sensitive files, and no can get in unless they know your password."

Other such programs are Mac-Safe and NightWatch, both from Kent Marsh Ltd., and Empower from Magna.

Central authority. In addition to using SUM, McIver is beta testing Casady & Greene's security package, A.C.E. (Access Control Environment), which is expected to ship in July.

"[A.C.E.] stops applications from downloading if you don't type in the correct password," McIver said.

This hard disk access manager offers multiple levels of security and

viral protection. For example, managers can use it to set up a hierarchical structure of users for each machine, including the server. They can also prevent networked users from installing applications, desk accessories, Control Panel devices (cdevs) or Startup documents (INITs) that have not been approved or certified as virus-free. Documents and applications can be encrypted and decrypted. Applications can be run but not copied, preventing piracy.

Besides Casady & Greene, other vendors have announced new data security packages or include security features in existing products.

For example, Version 2.0 of Liaison, Infosphere's software-only AppleTalk bridge, boasts several new security features, according to Eric Gould, marketing agent for the company.

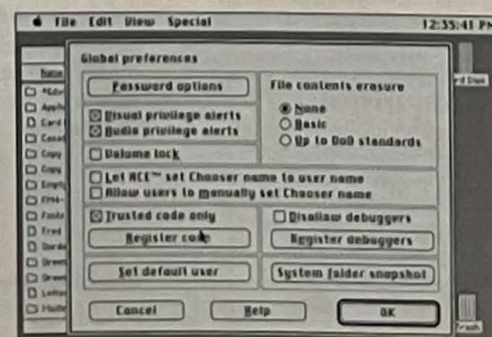
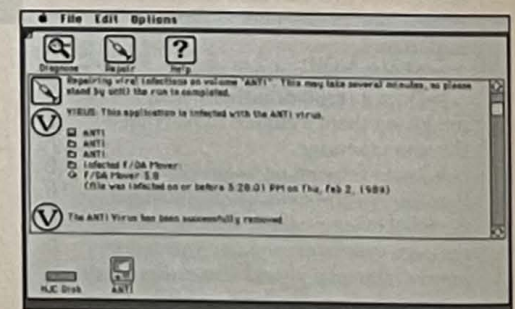
The new release includes a dial-back capability, which permits only callers from an authorized number to log onto the host network. Further, Liaison can limit access to a single node or zone or can permit access to the entire network. The product also maintains a log of all attempts to dial into the network.

Enigmatic files. Sometimes, managers responsible for computer security want a way to make files incomprehensible to the wrong eyes. That's when encryption enters the picture.

Camouflage from usrEZ Software and Sentinel from SuperMac Technology are two recent entries in the growing data encryption market. With most such products, users can choose between the federal government's Data Encryption Standard (DES) or a faster, proprietary scheme.

Nasty habits. In many respects, the organizational models prescribed by security products go against the democratic nature of the Mac and AppleTalk. "It's very difficult to build a lot of protection and security into AppleTalk systems," said Bill Silva, lead analyst

See Security, Page 28



(Above) Virex from HJC Software is continually upgraded as new Mac viruses appear.

(Left) Casady & Greene's A.C.E., expected to ship in July, will offer several levels of protection against viruses, piracy and illicit entry.

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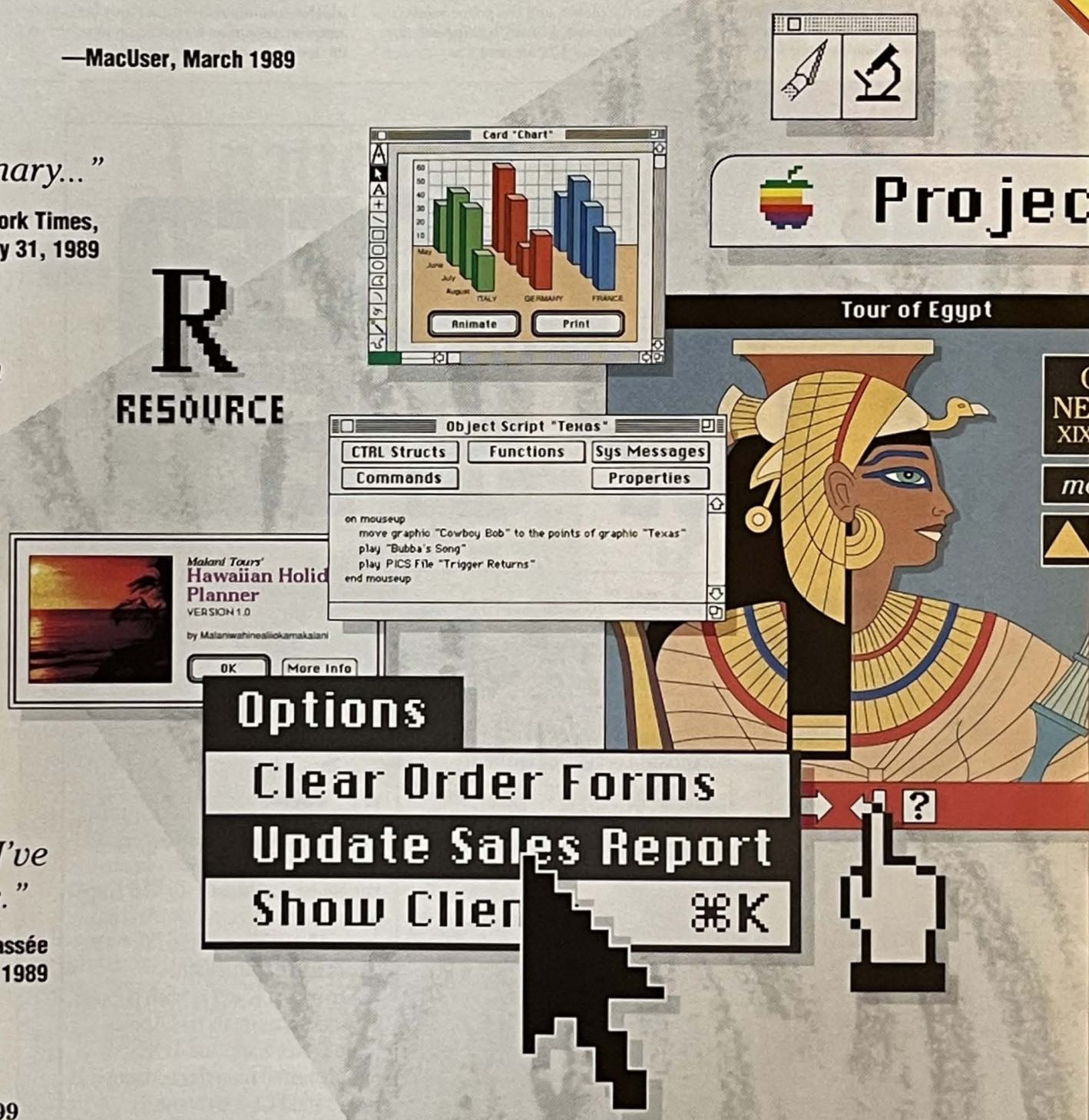


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The Human Interface

A nightmare by modem on Main Street

It was one of the worst nightmares I've ever had, even scarier than my recurring dreams about the Albanian CP/M portable.

I dreamed the folks who brought us the chaos of modern computer telecommunications had gotten their hands on our tele-

phone system. In this nightmare, there was an intruder in my house, and I was trying to dial 911. But I couldn't get through — I had a Panasonic phone, and the police used AT&T equipment. I finally had to settle for calling the Water Department.

Imagine, if you can, a telephone system for which you have to maintain equipment from a variety of hardware vendors to ensure compatibility with everyone you might want to call. It's not all that far-fetched. The multiplicity of high-speed data transmission hardware standards has created a situation in which telecommunications not only have to agree on a common transmission rate, but on the modem manufacturer as well.

In addition to owning all this hardware, imagine having to subscribe to multiple telephone network service providers because, let's say, when you wanted to call someone who uses Sprint's long distance service, you had to use Sprint yourself.



BY DENNIS KLATZKIN

And what would it be like if you had to key in a different account number and password with every phone call? How about if you still had to place every call through an operator on a party line because the many phone companies couldn't agree on modernization plans?

In short, what if placing a phone call were as complicated as using Red Ryder or CompuServe or connecting to a mainframe? It's an unacceptable scenario. We expect to be able to complete a phone call by pushing a few buttons, and we have every right to expect communications between computers to be virtually that straightforward. Instead, it's a Byzantine nightmare.

I hear the argument that everything, including our phone system, has grown more complex. I don't buy it! True, my new telephone has a manual big enough to warrant an index. But I learned to use it in one day and have never had to refer to an ASCII table.

Future historians will undoubtedly look back at this fledgling computer age and regard telecommunications as its most significant product. Nothing else we do with computers comes close to having as profound an impact on the way we live, learn and work. We're at a technological turning point as momentous as the Industrial Revolution, and, to be quite blunt, we're blowing it.

There are a few rays of hope. Task-specific telecommunications software, customized for certain networks, is reducing the burden. And more-efficient and capable mass communications network systems, like Integrated Services Digital Network (ISDN), will help elevate hardware platforms. But disappointingly little is being done about user interface standards for the future.

We need a total overhaul of the computer telecommunications system, and it's beyond the scope of a company like Apple to make such a move alone. It will take a concerted effort by the industry superpowers, a stroke even more bold than the risk Apple took with its long-term commitment to a new computer interface standard in the Macintosh.

Until then, I'll continue to toss and turn in my sleep. In the movies, dream sequences are resolved by a slow fade back to reality, when everything that was wrong can become right again. No such luck with my bad dream about telecommunications. It's a living nightmare. □

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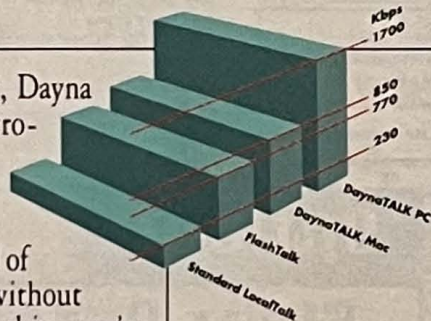
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Security

From Page 26

with Chevron U.S.A. of Richmond, Calif. "Around here, people get more work done through the user-friendliness of the Mac than through more difficult interfaces," Silva said. "As soon as you start building layers of protection onto the Mac, you start doing things to the user interface."

Other administrators said that their job is made more difficult by users not taking security seriously.

"The hardest thing to do is to get [users] to keep and maintain password security, even those who really care about secure docu-

See Security, next page

Product Info**Apple**

Virus Rx 1.4: available free from on-line services and AppleLink's tech info library
20525 Mariani Ave.
Cupertino, Calif. 95014
(408) 996-1010

Casady & Greene

A.C.E. 1.0: \$275 for single copy; \$895 for five-pack; \$1,495 for 10-pack
P.O. Box 223779
Carmel, Calif. 93922
(408) 624-8716

CE Software

Vaccine: free with all CE products and from on-line services
1854 Fuller Road, P.O. Box 65580
West Des Moines, Iowa 50265
(515) 224-1995

Farallon Computing Inc.

Timbuktu 3.0 (to be released this month): \$149
2201 Dwight Way
Berkeley, Calif. 94704
(415) 849-2331

IstAid Software

Anti-Virus Kit: \$79.95; IstAid Kit: \$99.95
42 Radnor Road
Boston, Mass. 02135
(617) 783-7118; (800) 843-3497

HJC Software

Virex 1.41: \$99.95; \$75 for one-year subscription for updates and enhancements
P.O. Box 51816
Durham, N.C. 27717
(919) 490-1277

Infosphere Inc.

Liaison 2.0: \$295
4730 S.W. Macadam Ave.
Portland, Ore. 97201
(503) 226-3620; (800) 445-7085

Kent Marsh Ltd.

NightWatch 1.03: \$149.95
MacSafe 1.05: \$149.95
1200 Post Oak Blvd., Suite 210
Houston, Texas 77056
(713) 623-8618

Mainstay

AntiToxin 1.1: \$99.95
5311-B Derry Ave.
Agoura Hills, Calif. 91301
(818) 991-6540

John Norstad

Disinfectant: available free from on-line services or from author with SASE and a disk
Northwestern University
2129 Sheridan Road
Evanston, Ill. 60208

SuperMac Technology

Sentinel: \$295
485 Potrero Ave.
Sunnyvale, Calif. 94086
(408) 245-2202

Symantec Corp.

SAM: \$99.95; SUM: \$99.95
10201 Torre Ave.
Cupertino, Calif. 95014
(408) 253-9600

usrEZ Software Inc.

Camouflage 1.0: \$349
1206 E. Pike St., Suite 588
Seattle, Wash. 98122-3918
(206) 353-0181

Security*From previous page*

ments," said John Farago, associate professor of law and director of law school systems at City University of New York at Queens College in Flushing, N.Y.

Students tell their passwords to their research associates; staffers tell their assistants. In addition, users select easy-to-break codes, like their children's names, and never change them, said Farago.

"It doesn't make sense to put a lot of staff time into system security when you can't

make it any more secure than that," he said.

In fact, several observers said that for security measures to be effective, users have to realize that they must give up certain rights when they enter a network.

According to Harry DeMaio, national manager of ProTech/Information Protection Services, a Deloitte Haskins & Sells consulting unit, companies have to go back to the basics of controlling the people with access to the system.

"If you have several thousand people, it's likely that one or two are angry at the compa-

ny," he said. "The more access to the system, the more the odds are stacked against you."

A.J. Dennis, senior micro consultant at Boston University's information center, agreed. "A LAN is as much of a community as a small town," said Dennis. "There are rights and privileges that individuals surrender to be part of a community, and if they don't like that, they can choose not to belong." □

Emily Kay is a free-lance writer based in Chelmsford, Mass., and a frequent contributor to MacWEEK.

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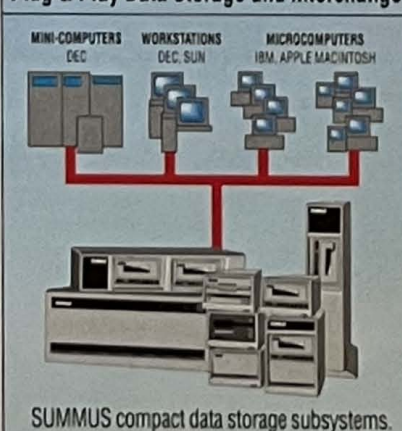


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Good CAUSE for programmers

Ease of use battles with high price



RICHARD FOLKERS

CAUSE

Maxem Corp.
7855 South River Parkway, Suite 217
Tempe, Ariz. 85284
(602) 491-2466; (800) 336-6296

List price: \$495 for Personal version; \$595 for Professional version

- + Easy to learn and use application development system; source code is compatible with MS-DOS version; excellent documentation.
- Programming environment is not extensible; generated applications don't support customizable pull-down menus.

By Dennis Klatzkin

Personal programming, a development environment in which non-programmers can easily generate custom applications, has until now been a largely unfulfilled promise in the Mac world.

Most application-generating database programs are extremely complex and have steep learning curves. And Macintosh users soon learn that creating applications with HyperCard as well as its next-generation counterparts still require traditional programming techniques and a good deal of study.

Maxem Corp.'s new CAUSE, a personal programming development system, finally realizes the concept of the "program construction set" we first heard about with the introduction of HyperCard. CAUSE has some limitations, but largely achieves what it sets out to accomplish.

An overview.

Attempting to describe CAUSE is more difficult than learning how to use it. Essentially, it's a development system based on Mac-like, object-oriented principles. With it, you can generate applications that primarily perform database and numeric tasks. There are no word processing or telecommunications capabilities within the system, and its use of graphics is mostly

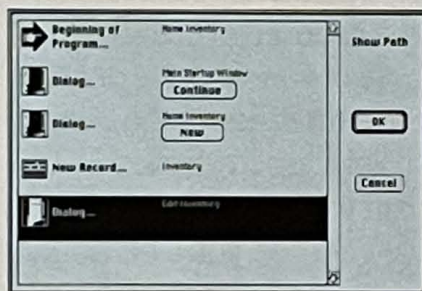
limited to the design elements you build into applications.

Maxem offers CAUSE for both Macs and MS-DOS computers. The program's operation on either type of machine is virtually identical, but since CAUSE uses the character-based graphics mode on IBM PCs, the appearance of icons and other graphical elements is rather crude.

The "source code" you develop to build applications on either computer is fully cross-compatible with the other computer. If you design a CAUSE application on the Mac, you can compile the same code with the PC version. The data files produced by CAUSE-generated applications can also be shared between Macs and MS-DOS machines.

Maxem offers CAUSE for the Macintosh in two flavors. The basic difference between the Personal and Professional versions is that the

Continued on Page 34



The set of tools available in Maxem Corp.'s CAUSE for designing windows will be largely familiar to anyone who has worked with the Mac's graphical user interface.

Extend improves on simulation modeling



MICHAEL BAY

Extend 1.1f

Imagine That Inc.
7109 Via Carmela
San Jose, Calif. 95139
(408) 365-0305

List price: \$495

- + Extremely powerful simulation generator with block library capability; extensive function set; customizable Mac user interface.
- Requires in-depth understanding of system being modeled (a characteristic of the technique, not the program); no tutorial material provided on model-building methodology.

By David Sternlight

Simulation modeling, long the domain of mainframe computers, has gradually filtered down to the personal computer arena, with improved results. Extend, a dynamic model generator from Imagine That!, uses graphic representations of the building blocks of systems as well as graphic output. That's a far cry from traditional mainframe programming language input and tabular output.

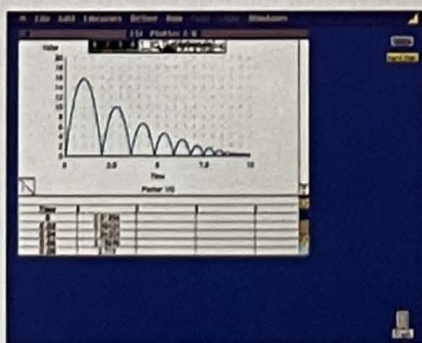
Time- or frequency-dependent models can be used to simulate the behavior of almost any system, such as manufacturing processes, inventory and cost control procedures or hospital patient flows. Results of such simulations can validate ideas, maximize performance or cost ratios, and diagnose potential design problems.

Extend building blocks. Models created in Extend consist of interconnected blocks representing basic system func-

tions. The connections, which may be multiple and complex, represent inputs and outputs to the blocks. Each building block is driven by its inputs to produce its outputs. Extend models operate in an object-oriented fashion: Each block "does its thing" as the model is run, receiving "signals" from other blocks at its inputs and transmitting "signals" to other blocks via its outputs.

To avoid complex web-like paths on the model sheet, output signal

See Extend, Page 36



Created with Extend, the dialog window for the Ball block of this tutorial model of a bouncing ball includes both numerical edit fields and user-defined buttons.



The Week in REVIEWS

True rectangular text editing with Preditor

Preditor from Evatec Software is the first text editor to allow true rectangular text selection and editing. Evatec bills the package as a programmer's editor, but anyone working with tables of text or numbers will also benefit from its myriad features.

In addition to rectangular editing, Preditor boasts unlimited levels of Undo and Redo, a programmable macro language, synchronized scrolling over two windows, text marking, on-line help, file filters, autosave and backup functions, unlimited file size, ASCII code editing, 10 edit buffers, pattern searching, bracket placing and checking, user-defined directories and more.

The manual is excellent, and we especially liked Preditor's detailed features and the multiple accessibility of many commands from the keyboard, main menu bar or pop-up menus. Some extras that give you an idea of the depth of the program are "twiddling," whereby the characters before and after a selection are swapped; a status box displaying available memory or the time of day; and dynamic display of the current line number while scrolling.

Programmers will appreciate Preditor's recognition of seven languages and its ability to automatically bold reserved words in those languages. A Tags feature lets users select any function or data type name and then opens the file in which the definition is contained for reference. Tags files must be pre-created for each directory you want to search through, but programmers will still find this one of Preditor's most useful capabilities.

An update to Preditor is coming soon, with text collapsing and folding and the ability to read Acta files. It will be sent free to registered users. For a limited time, Preditor is available for \$65. The list price is \$90. Evatec can be reached at P.O. Box 2190933, Portland, Ore. 97225; (503) 644-4606.

The roots of personal computing

Mac users interested in the origins of their machine will want to read "A History of Personal Workstations," edited by Adele Goldberg. The book is the product of a conference on the subject held three years ago in Palo Alto, Calif., and the chapters are contributed by a veritable who's who of early personal computing. Alan Perlis, Gordon Bell, J.C.R. Licklider, Doug Engelbart, Alan Kay and Butler Lampson are among the authors.

Although the book is somewhat academic in tone, it is well-illustrated and the stories it tells are compelling: the origins of the Arpanet network, the history of the Dynabook, the Alto system and Ethernet.

"A History of Personal Workstations" costs \$51.75 and is published by Addison-Wesley under the aegis of the Association for Computer Machinery Press.

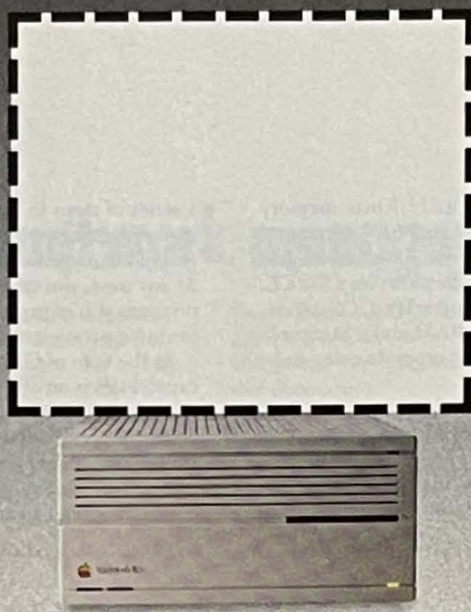
Laser-printed address labels and E-mail from stackware

MaxStax+ of Phoenix, Ariz., publishes HyperCard stackware that, while not quite commercial-level material, is nonetheless useful. HyperMail and Lightning Labels, two of the company's newest stacks, are quite good. HyperMail acts as a customizable electronic-mail system in offices with an AppleShare server. Messages are added to an individual's stack on the server, and recipients are notified of new mail on their Home cards. Although the stack can't match the functionality of stand-alone E-mail packages, it is cost-effective at \$79.95.

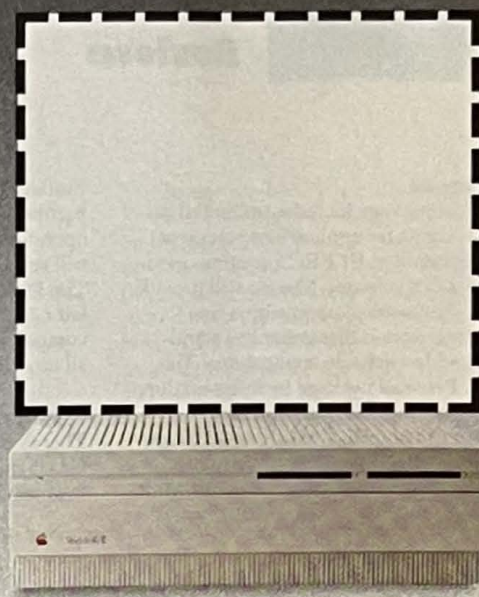
The \$24.94 Lightning Labels stack takes merge data from word processors or databases and creates 33-to-a-page laser-printed address labels. Unlike most programs, Lightning Labels can use the top and bottom rows of labels on standard sheets with up to five lines of copy per label. Many other stacks are available, and a catalog can be obtained from MaxStax+ at 1142 W. Indian School Road, Phoenix, Ariz. 85013; (415) 530-1971. — By Becky Waring



IIx



IIcx



II

Nobody Tops A II

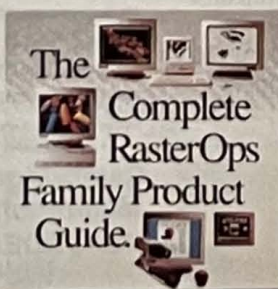


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From Page 32

higher-end package includes unlimited distribution rights for applications you create, using the bundled EFFECT runtime module. Later this summer, Maxem will provide CAUSE Professional users with a free update to a version that generates stand-alone, double-clickable applications. The CAUSE Personal package includes no distribution rights for users' applications.

On the Macintosh, CAUSE requires at minimum a Mac Plus with 1 Mbyte of RAM. CAUSE is well-behaved under Multi-

Finder; it can run in a 512-Kbyte memory partition, but it won't support background operations. The EFFECT runtime engine will run CAUSE applications on a 512KE. The PC version requires MS-DOS 2.0 or later, 512 Kbytes of RAM and a Microsoft-compatible mouse. It supports color and all monitors.

Programming without syntax.

There's no programming language in CAUSE. Building an application consists of leading CAUSE's graphical interface through

a series of steps to specify dialogs, displays, computations, reports, program "decisions" and file management, among other things. At any time, you can trace the pattern of the program you're creating to get an overview or revise previous steps.

At the core of CAUSE's data-handling capabilities is an advanced, relational, proprietary B-Tree/ISAM (indexed sequential access method) database engine called c-tree from FairCom of Columbia, Mo. It's fully integrated into CAUSE and totally transparent to the user, providing a high level of

database power and performance.

The applications you design with CAUSE have the ability to import and export plain text files, so you can move data easily between CAUSE applications and other programs. Since you have complete control over the data delimiters, CAUSE data files should interface quite easily with virtually all appropriate Mac programs. CAUSE supports color on the Mac and can import color PICT graphics via the Clipboard, although these are mainly for designing your application's windows and displays. CAUSE doesn't support graphics in data fields or PICT2 graphics at any level.

Incredibly, after you're finished designing an application, CAUSE will generate user documentation automatically. With simple commands, it will print out a fully formatted manual, specific to your application, that uses the context-sensitive help screens you build into the application.

The documentation accompanying CAUSE is outstanding. The spiral-bound reference guide is well-written, heavily illustrated and includes a good tutorial. A separate technical supplement is a collection of appendices covering subjects like details of program functions, cross-compatibility issues, system error messages and the like.

Both manuals cover the Mac and PC versions concurrently, and although this may seem an impossible task to accomplish, Maxem has done it in an exemplary manner. The company also provides unlimited technical support via toll-free phone lines, as well as through its dealer network.

How useful is it? For any Mac development system to lay claim to the term personal programming, it must not only prove itself easy to use, but also produce applications that are truly functional and within the bounds of accepted Mac user interface guidelines.

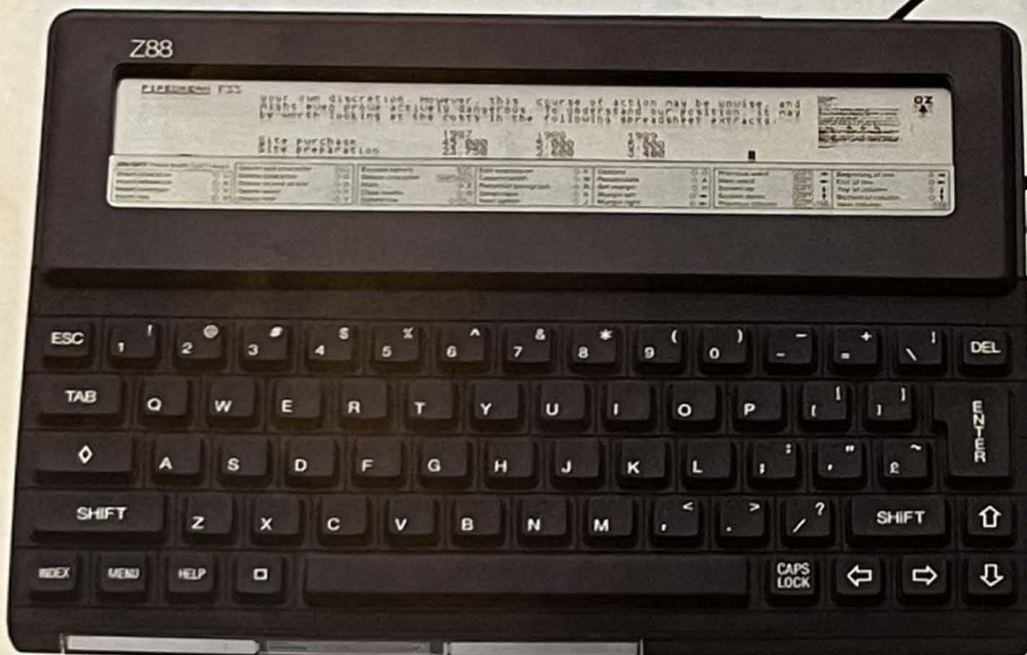
CAUSE succeeds on almost all counts, although there are a few notable exceptions. In terms of interface issues, the most severe limitation is that you can't incorporate customized pull-down menus in your applications. CAUSE offers the functional equivalent of menu choices through dialog boxes, but user interface mavens will certainly notice the difference.

The major limitation in CAUSE's development environment is its lack of extensibility. HyperCard, as it comes out of the box, doesn't support pull-down menus either, but with external commands and functions, programmers were able to add that feature in short order. At present, you can't extend CAUSE's built-in capabilities with external code, but Maxem claims that this functionality, as well as customizable menus, will be offered in a Version 1.1 upgrade later in the year.

Conclusions. We found CAUSE to be a competent development system that keeps its promises about ease of use. The applications it generates are fast, solid and quite flexible within the system's intended scope. However, CAUSE's rather high price may not be quite "personal" enough for users with limited objectives.

The MS-DOS cross-compatibility of source and data files may prove to be a master stroke or a red herring. We can't foretell which of the complex market forces will weigh the heaviest. At present, though, we can predict that business users investigating alternatives for in-house development will certainly see CAUSE's cost justifications and should take a long, thoughtful look at this unique new product. □

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Cambridge Z88 Systems for Macintosh users include the Cambridge Z88, cable and software to transfer files, carry case and batteries.

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- No dial-back capability; ports are not labeled.

By Ric Ford

Shiva recently introduced its TeleBridge to a Macintosh market crowded with a confusing variety of networking products. The TeleBridge, a small box that connects a modem into a LocalTalk-compatible network, solves a common set of networking problems in a straightforward way. The software half of the package provides strong network management capabilities.

The role of the TeleBridge is to join Macs, LANs and modems for many purposes:

- ▶ A TeleBridge on a remote LAN lets a single Mac join that network by dialing in with a modem.
- ▶ Two TeleBridges with modems can join separate LANs into one internetwork over the phone lines.
- ▶ Macs on a LAN with a TeleBridge can share a modem for outgoing calls.
- ▶ DOS Dial-In, a \$99 software package due soon from Shiva, will give IBM PC compatibles access via modem to AppleTalk LANs equipped with a TeleBridge.

Although modems are the primary means of connecting networks across a distance, the TeleBridge can also be used with other asynchronous links, such as a PBX, at speeds up to 57,600 bits per second (bps), according to Shiva.

Features. The TeleBridge is a stand-alone AppleTalk device. That's an important distinction between it and InfoSphere's Liaison software bridge, which runs in the background on a Macintosh (see MacWEEK, Feb. 7).

The TeleBridge has two ports, one for a modem (or PBX) and a second for a LocalTalk-compatible connector. Unfortunately, the ports look identical, and Shiva didn't label them. There is no way to connect a TeleBridge directly to Ethernet cable, and it is not designed to bridge two AppleTalk LANs directly.

The TeleBridge hardware is simple and well-constructed, but it is the software that provides features and flexibility. The Internet Manager application is an updated version of the same program used to configure Shiva's NetBridge (see MacWEEK, Nov. 29, 1988). Internet Manager is easy to use, and it includes a built-in help system through which passwords can be defined for the network manager and for remote access. Dial-in users can be restricted from accessing other zones on the network, and the TeleBridge can be set up to allow access only from other TeleBridges. There is no equivalent to Liaison's dial-back facility.

The Shiva Modems application lets the

network manager or technically oriented user configure non-standard modems for connection to the TeleBridge or for calling remote networks.

Once the TeleBridge, modems and network zones are configured, software must be installed on each Mac that will access a TeleBridge. This is a simple process that uses Apple's Installer application. A Control

Panel device (cdev) is used either to dial into a remote network or to have a local TeleBridge call a remote TeleBridge for joining two networks.

The Control Panel is also used to configure a TeleBridge for modem sharing. When a telecommunications application is launched, access to the Mac's modem or printer port is automatically re-routed to the

TeleBridge modem. When the user quits, the TeleBridge is freed for use by other people on the network. A modem "pool" can be set up if there is more than one TeleBridge on the network, so you are automatically re-routed to an idle modem if the first one is busy. A special TeleBridge menu provides manual overrides for releasing the modem and re-connecting with it.

Performance. Using AppleTalk services via modems and phone lines is never as fast. See TeleBridge, next page



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TeleBridge

From previous page

as being on a local network, but the TeleBridge performed well within those limitations. When the TeleBridge was used as a modem server, we saw no speed degradation compared with a direct-connect modem.

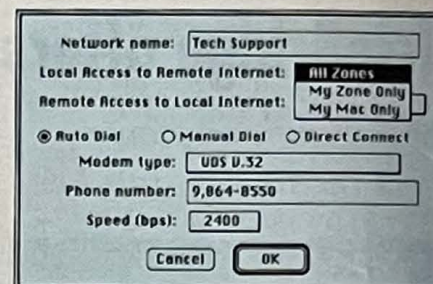
A series of tests using Microsoft Mail and a laser printer across a TeleBridge link showed performance almost identical to that of Liaison 2.0 running alone on a Mac SE/30. With 2,400-bps modems, the tests took from

seven to 30 times longer across phone lines than they did on a local network — much better than the 100-fold difference in raw transmission rates.

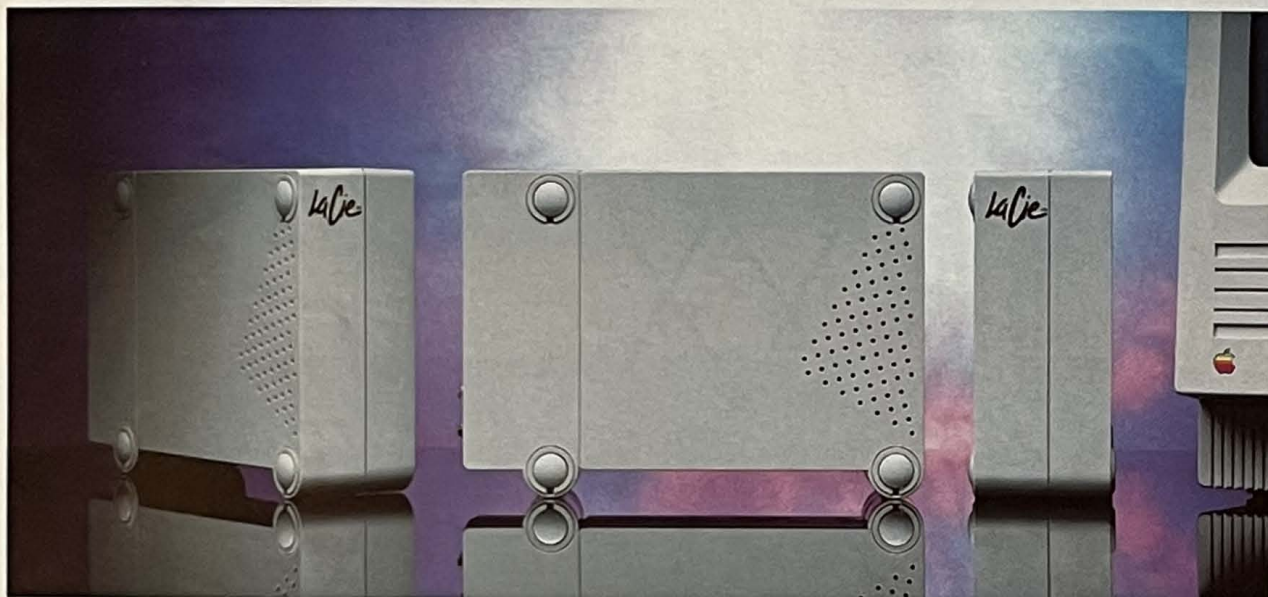
Using higher-speed modems might buy some further improvements, but this can be a tricky process because of their special configuration requirements. Shiva's technical support people were helpful in attacking these problems, but we put aside high-speed testing when one modem performed worse in its special "fast" mode than it did at a standard 2,400 bps.

Compatibility. We had few compatibility problems with the TeleBridge used as a modem server. The only serious one was that CE Software's MockTerminal desk accessory bombed when it was opened while the TeleBridge was busy with another user. We successfully used Red Ryder, Microphone, MacNET, AppleLink, ZTerm and other communications programs at various speeds from 1,200 bps to 9,600 bps.

We had no compatibility problems with TeleBridge as a network bridge, although



Users set up TeleBridge connections from a Control Panel device. They select a TeleBridge to use from the Chooser.



"Cirrus Drives-the cream of the crop."

Macworld, May 1989

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everyday network glitches had to be straightened out occasionally by the network manager, usually by restarting the TeleBridge or re-initializing its modem. Unfortunately, this is simply the state of the art in wide-area networking. We used AppleShare, CE Software's QuickMail and Microsoft Mail, and printed across TeleBridge links without problems.

User support. Shiva provides the original purchaser with a one-year warranty on hardware and floppy disk media, but there is no warranty of software performance. Technical support is available via a toll call and through some electronic information services. Shiva also maintains a technical support network that is accessible by modem. Shiva's documentation is concise, complete and easy to understand, lacking only an index.

Conclusions. Shiva's TeleBridge is an effective wide-area companion to the company's NetBridge. The two share friendly, powerful software, good documentation and support, and they perform as advertised for a reasonable price.

If you are willing to dedicate some of a Mac's processing power to bridging, InfoSphere's \$295 Liaison 2.0 offers a lower entry price and somewhat different features, but the TeleBridge gets our full recommendation among hardware half-bridges. Shiva's network management software adds a lot of value to the product. □

Extend

From Page 32

paths may also terminate in a name, which can then appear elsewhere on the sheet as the source for an input path. In addition to user-specified signals between blocks, system messages are generated to inform each block of the state of the simulation.

Using Extend. There are three levels of Extend use. The first consists of taking an existing model and varying its parameters for system tuning or analysis. The second involves assembling a model from Extend's extensive library of supplied blocks. Finally, you can build blocks from scratch, using Extend's C-like MODL language.

Two windows are used in block construction. One is for designing the block's parameter dialog box, while the second is used to design the block's structure, including its icons, variables, help text and equations.

When you click on a model block, a dialog window opens to permit parameter definition. These block dialogs are customized during design of the block and can include edit fields, push buttons, radio buttons and check boxes. Dialog windows can also perform calculations, handle

Continued on Page 38

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From Page 36

tables, and take parameter and text input.

A variety of output blocks are available, including graphs and tables. Different colors or line characteristics may be selected for each variable to be displayed in a graph. A table of numerical values of the variables is also provided, and when you move the cursor to any point on the graph, such as a minimum or maximum, the values at that point are shown.

More than one "case" may be run during a particular model session. Cases appear as

separate pages that can be flipped through. Graph axes can be changed, and plots can be expanded and compressed for additional viewing flexibility.

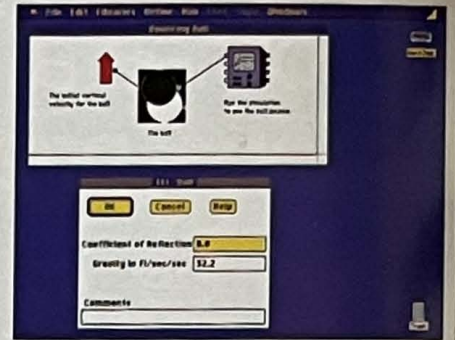
The MODL simulation language.

The MODL simulation language is a C-like structured object-oriented language. Using MODL, block designs specify what to do with input signals and what to provide at outputs. These scripts are embedded in 11 message handlers, such as On Simulate, On DialogOpen and On CheckData, which

give the model its object-oriented, asynchronous power.

On OK is a particularly powerful handler; it can be used to produce calculations or actions within a dialog window itself, independent of running the simulation. For example, the supplied lease/purchase simulation includes a button that produces an amortization table.

The MODL language includes an extensive set of error messages, operator and control statements, and more than 150 built-in math and statistics func-



This example of a simulation run of the bouncing ball model includes both graphical and tabular output.

tions. User-defined functions can also be created.

Library system. A powerful and highly user-friendly library system keeps track of the extensive collection of pre-defined blocks supplied by Imagine That! with Extend, as well as user-defined blocks. Block definitions are stored in the library system and transparently invoked by the work sheet on opening. Pre-defined block libraries include curve-fitting, distribution, earthquake, ecosystem, factory, lease, physics, queueing, Wall Street and plotter models.

User friendliness. Extend includes a clear tutorial that uses as examples models of a lemonade stand and a home heating system. The manual is well-organized, and on-line help is provided. Technical support for registered users is a toll call, but a free quarterly newsletter is provided.

Constructing and editing models in Extend is easy with editing features for scripts, and good display and printing options are available. Extend can import and export data via the Clipboard or tab-delimited text files. The powerful block management library with automatic searching is very convenient for generating and maintaining systems of models. Models may be simulated in the background under MultiFinder, a very convenient feature for larger, more time-consuming models. No bugs were noted during the review process.

Despite its ease of use, Extend is not for beginners. Simulation model building requires careful thinking and analysis of the system to be modeled. Modeling is usually a subject for advanced undergraduate engineering and management science courses. No tutorial material is provided with Extend on model-building philosophy or methodology, beyond that appropriate to operating Extend itself. This represents a major omission for novices.

A new release of Extend is in development. Version 2.0 will include manufacturing- and material-handling libraries, a generic library containing generalized blocks, hierarchical capabilities, and animation.

Conclusions. Extend is a highly recommended powerful professional simulation modeling tool for engineers, management scientists, analysts and consultants. In terms of features, it is among the most powerful of such tools, regardless of computational platform. Very large models may benefit from faster machines, including mainframes and future models of the Mac. It carries our highest recommendation for professionals and advanced students. However, because of the complex and challenging intellectual nature of simulation model building, it (or any other simulation modeling tool) is not recommended for use by novices without guidance, except as a tool for learning and exploration. □



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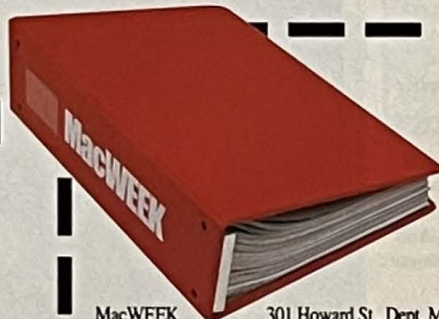
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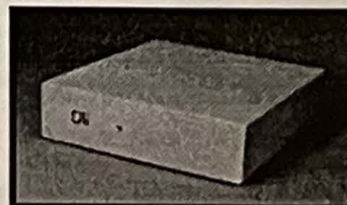
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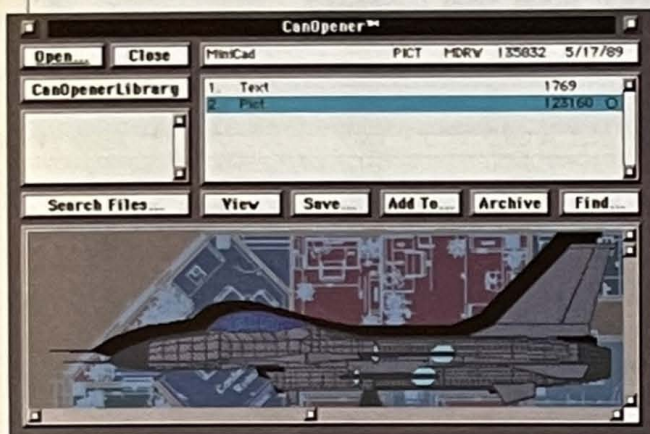
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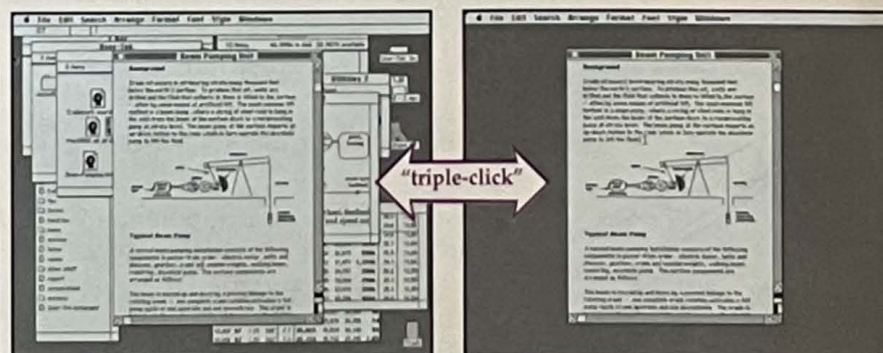
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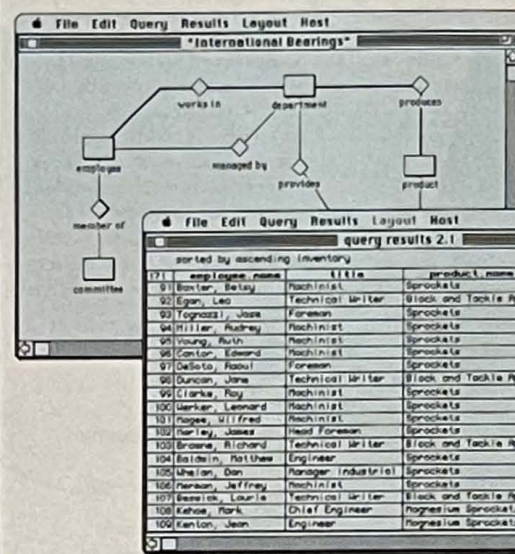
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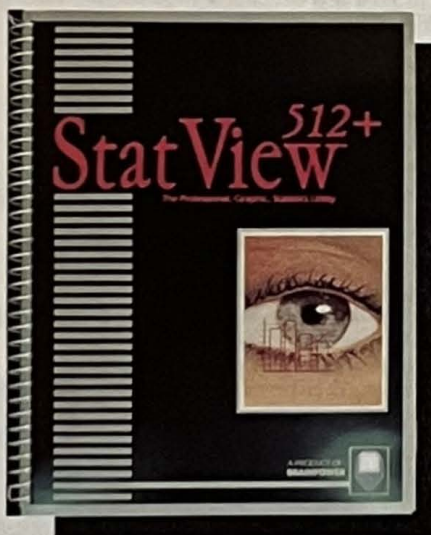
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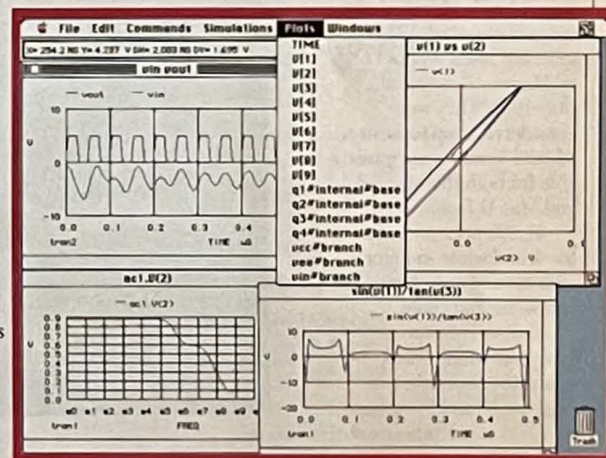
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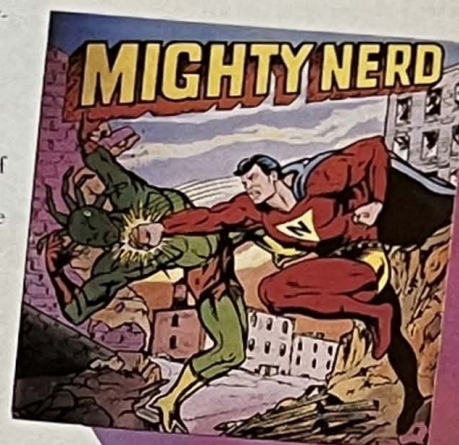
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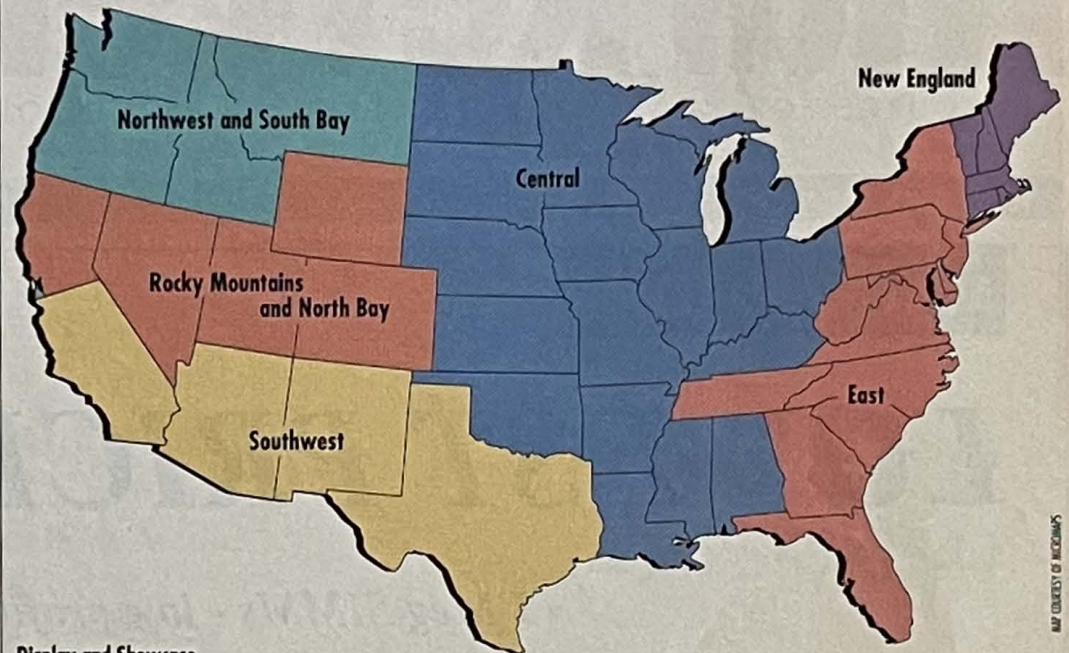
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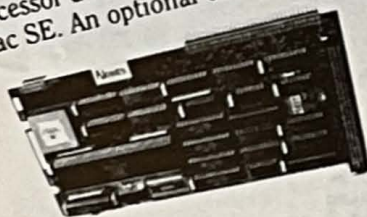
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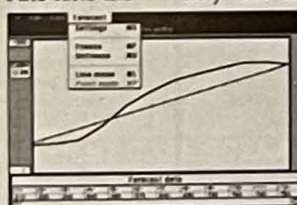
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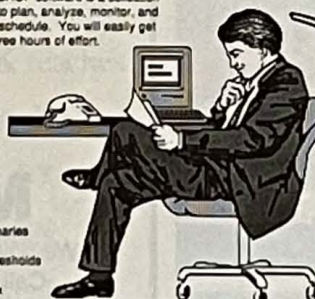
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Canon shoots \$100M into NeXT

Deal opens Japan for Jobs' black box

By Connie Guglielmo

Fremont, Calif. — NeXT Inc. last week announced a \$100 million investment from Canon Inc. and plans to conquer the Japanese workstation market with the help of the Tokyo-based camera and office equipment manufacturer.

The investment gives Canon a 16.67 percent stake in the Palo Alto, Calif., company and exclusive rights to distribute NeXT's Unix-based workstation in Japan and other Asian countries, said Steve Jobs, NeXT president and CEO.

"Asia gives us an opportunity to get in on the ground floor of an emerging market," Jobs told a gathering of press and industry analysts touring NeXT's state-of-the-art man-



Japan opened to NeXT: Canon will market the NeXT machine in Asia, but Steve Jobs' black box remains 100 percent U.S.-made at a highly automated plant in Fremont, Calif., pictured above.

ufacturing plant in Fremont, Calif.

Jobs also said the investment gives the privately held company a market valuation of \$600 million and should

"erase any doubts of the long-term financial stability of NeXT."

Although NeXT's black box gar-

See NeXT, Page 56

Seagate to acquire CDC's Imprimis

Buyout will create storage goliath

By Henry Norr

Minneapolis — Seagate Technology Inc., the leading supplier of low-capacity hard drives for personal computers, last week signed a letter of intent to purchase Imprimis Technology Inc., the Control Data Corp. (CDC) division that dominates the OEM market for Mac drives in the 150-Mbyte and higher range.

Under the terms of the agreement, Seagate will pay approximately \$450 million, pumping \$250 million in cash into CDC and issuing a promissory note for \$50 million and 10.7 million new Seagate shares valued at about \$150 million.

CDC will hold 18 percent of Seagate's shares, and Lawrence Perlman, president and chief operating officer of CDC and former head of Imprimis, will join Seagate's board.

The transaction still requires

approval by each company's board of directors and by federal anti-trust authorities. Lou Lundberg, marketing communications manager at Imprimis, said the companies hope to make the sale final by late summer.

In 1987, the last year for which

complete figures are available, Seagate had 19.8 percent of the OEM disk drive market measured in dollars, according to Jim Porter, president of Disk/Trend, a Mountain View, Calif., research company. CDC's data storage group, which

See Imprimis, Page 56

Ashton-Tate revenues dip

Torrance, Calif. — Faced with an inventory glut swelling distributor channels, Ashton-Tate Corp. last week said that it expects its revenues for the second fiscal quarter to drop as much as 24 percent, producing a loss of about \$15 million.

The announcement marks the first time that any of the big three software publishers, Ashton-Tate, Lotus and Microsoft, has posted a loss.

The problem stems from a less-than-enthusiastic customer response to dBASE IV Version 1.0 and the company's practice of stuffing distributor channels at the end

of each quarter, analysts said.

Ashton-Tate said it may also report a loss for the quarter ending Sept. 30 depending on the response to dBASE IV Version 1.1.

In the comparable period last year, Ashton-Tate posted a profit of \$11.5 million, or 44 cents a share, on revenues of \$71.9 million. Revenues for the quarter this year are expected to fall to \$55 million.

Investors responded with massive sell-offs. The day of the announcement, the company's stock plunged \$4.25, or 19 percent, to \$18.50 in over-the-counter trading.

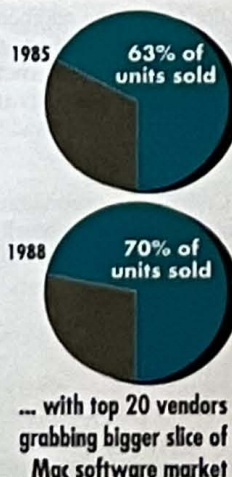
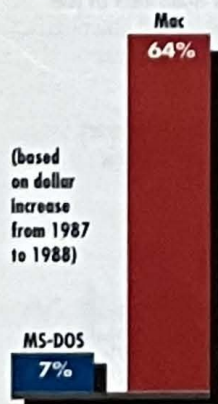
Mac software sales rise 64%

Plymouth Meeting, Pa. — Sales of Macintosh software increased 64 percent in dollar terms between 1987 and 1988, while MS-DOS software sales increased only 7 percent, according to a study by IMS America Ltd., a Plymouth Meeting, Pa., research firm.

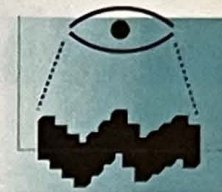
The study also found that top software vendors have increased their market share over the past three years.

The top 20 software vendors accounted for 70 percent of unit sales in 1988, up from 63 percent in 1985, with dollar sales showing even stronger consolidation, according to IMS.

Mac sales gain
outpaces MS-DOS gain ...



Business B R I E F S



Apple promotes Stead to VP, general counsel

Cupertino, Calif. — Apple last week announced the appointment of Edward Stead, 42, as vice president and general counsel. Stead, who has been associate general counsel for Apple USA since September 1988, will have overall responsibility for Apple's legal affairs and legal staff worldwide, the company said. He will report directly to Al Eisenstat, senior vice president and secretary of the company.

Before joining Apple, Stead was senior vice president and general counsel of Cullinet Software Inc., a major supplier of mainframe software. He previously spent more than 12 years in various legal management positions at IBM.

Stead replaces John Karalis, who resigned in April to return to private practice.

Last month the company appointed John Murphy, a former Wang and Honeywell executive and most recently Apple's director of U.S. Field Operations, to the position of vice president and general manager of Eastern Operations, replacing Harold Copperman.

Olduvai sells utilities to concentrate on corporate market

South Miami, Fla. — Olduvai Corp. has sold off two utilities and its line of clip art and PostScript fonts to a newly formed software publishing and development company headed by a former Olduvai official.

The new company, Tactic Software, acquired full ownership rights to Icon-It!, a \$79 utility that lets users activate application commands by clicking on a custom icon bar; FontShare, a program now priced at \$249 that lets networked users share downloadable PostScript fonts residing on a server; ArtFonts, a series of PostScript fonts; and ArtClips, a \$99 four-disk set of PostScript clip art.

Juan Chotsourian, president of Olduvai, said his company had made the decision to sell the four products to concentrate on the corporate market. Olduvai confirmed last week that it had acquired U.S. marketing rights to Plus, the HyperCard-based software development package recently released in Europe by Format of Dormagen, West Germany. Olduvai also will continue to market its Read-It! series of optical character-recognition programs and two Clipboard-enhancement utilities, MultiClip and the forthcoming ClipShare.

Jay Jason Bartlett, Tactic Software's president, owns SoftCity, a Miami computer retailer, and formerly coordinated Olduvai's marketing program. Bartlett said Tactic plans to announce a series of new products and enhancements this summer.

Tactic Software is located at 13615 S. Dixie Highway, Suite 118, Miami, Fla. 33176; (305) 378-4110; (800) 344-4818.

Dayna lures Jones from CDC to become its president, CEO

Salt Lake City — Dayna Communications last week announced the appointment of Boyd T. Jones as its president and CEO.

Jones joins Dayna after 26 years with Control Data Corp. (CDC). For the past 10 years, he served as president of CDC's Government Systems Group, which last year posted revenues of more than \$365 million.

The move is not related to CDC's sale of its subsidiary, Imprimis Technology Inc., to Seagate Technology Inc. (see related story, this page), according to David Pascoe, Dayna spokesman.

Dayna Communications, a privately held company, makes DaynaFile, DaynaTalk and the soon-to-be-released DaynaNet and DaynaMail.

Bill Sadleir, the company's founder, left in June of 1988. "We've been looking for the right person," Pascoe said. "It's especially difficult when you are not in one of the high-tech centers."

Police bust Argentine software pirates

By Elinor Craig

Buenos Aires, Argentina — Police took time from quelling widespread anti-inflation rioting this month to seize pirated Microsoft software and manuals from an Apple distributor and eight authorized Apple dealers here and in Mendoza, Rosario and Cordoba.

Microsoft Corp. of Redmond, Wash., said

it has every intention of prosecuting the offenders, but Apple has so far taken no action in the case.

Hundreds of programs were seized in the raids, which Microsoft said was the largest bust of its products in Latin America.

"The recent actions in Argentina should be viewed as examples of the zeal with which

we will pursue this illegal copying of our software," said William T. Pope, senior corporate attorney at Microsoft.

Apple spokeswoman Nancy Kelly said Apple will not tolerate piracy.

Some vendors said they are hoping that Apple will seize the moment and take a tougher stand against piracy. "We need Apple

to make a very clear statement, to be a leader in this area," said Bill Holtzman, Claris Corp. general manager for the Pacific region. Holtzman said he is concerned that some pirated Claris software may have been found in the raid, but details have not been released.

Apple, however, remains cautious. Jim Burger, the company's chief counsel for government, said it would be premature to take any action at this time. "We are not the driving force. It is Microsoft's investigation, and we want to see how they resolve it," he said.

Microsoft lawyers have no immediate plans for drawing Apple into the proceedings, according to Dave Curtis, corporate attorney in charge of the investigation.

"I don't see an Apple issue here," he said. "I don't know how Apple might assist in the proceedings."

Curtis said he plans to work with the Argentine courts and expects the same support from the legal system that he has experienced in past litigation.

Because this incident is the first to occur on a nationwide scale, it will test the courts' commitment to Argentine copyright laws. □



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Rafferty starts new firm to stay on cutting edge

Malvern, Pa. — Like many founders of high-tech companies, Jim Rafferty was bored with the pace of a now well-established company. Rafferty, chairman and co-founder of Cricket Software, is leaving the Malvern, Pa., software vendor to start a new venture.

"It's a classic case of the founder of a company not being happy with the size of the company," Rafferty said. "I want to be on the edge of technology, so it's time to move on to building another company."

Rafferty, along with three partners, has formed a new company called Creative Circuits Corp. that will design, manufacture and market custom VLSI (very large-scale integration) chips and software for color images and video, he said.

"We are willing to do everything from chips to boards to software," said Rafferty.

The new company plans to have demonstrable products ready this fall and to start selling in mid-1990.

Rafferty's partners in the venture are Ed Sun, co-founder of Weitek Corp.; Adrienne Lightenberg, who Rafferty called a custom video VLSI guru; and Alex Balkanski, a video developer from France.

Cricket President Barry Borden said the company had no comment on Rafferty's departure. □



Jim Rafferty: "I want to be on the edge of technology, so it's time to move on to building another company."

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☐ D. Micro Manager/Specialist/Coordinator
☐ E. Project Manager
☐ F. Art Director/Graphic Designer/Artist/Illustrator
☐ G. Manager/Supervisor (not listed above)
☐ H. Architect/Engineer
☐ I. Systems Analyst/Programmer
☐ J. Consultant/Advisor
☐ K. Scientist
☐ L. Educator
☐ M. Editor/Writer
☐ N. Professional (Doctor, Lawyer, etc.)
☐ O. Accountant
☐ P. Representative
☐ Z. Other (please specify)

3 Your department/function at this location (check one only):

- ☐ A. Engineering/Systems Engineering
☐ B. Research & Development
☐ C. Communications/Publishing/Public Relations
☐ D. Art/Creative Design
☐ E. MIS/DP/Information Systems
☐ F. Manufacturing/Operations/Production
☐ G. Sales/Marketing
☐ H. Administration/Management/Personnel
☐ I. Accounting/Finance
☐ J. Education/Training
☐ K. Science
☐ L. Consulting
☐ Z. Other (please specify)

4 Are there Macintoshes or other PCs listed below owned and/or planned for purchase within 1 year at this location?

- ☐ Yes ☐ No
 (Write in accurate quantity for all that apply)

	Currently Owned (Quantity)	Plan to Purchase (0-12 Months) (Quantity)
01. Macintosh II		
02. Macintosh SE		
03. Macintosh Plus		
04. Macintosh (Other)		
05. IBM/Compatible Micro		
06. Workstation (e.g. Apollo, Sun)		

5 If your firm's primary business at this location is retailing, reselling or consulting, how many Macintoshes are sold per year (answer one only):

- ☐ A. Retailer: sold per year _____ (specify quantity)
☐ B. Reseller: resold per year _____ (specify quantity)
☐ C. Consultant: Purchased by your clients through your firm's recommendations per year _____ (specify quantity)

6 Please check the Mainframe(s) or Minicomputer(s) at your location (check all that apply):

- ☐ 01. VAX ☐ 02. IBM ☐ 03. Other ☐ 09. None

Required: Company name and company street address must be written below or applications cannot be processed. Please print.

First Name										Last Name									
Title										Business Telephone									
Company Name																			
Division										MS									
Business Address																			
City										State					Zip				

Optional: Enter home address below ONLY IF YOUR COMPANY WILL NOT ACCEPT DELIVERY. (Company information is still required.)

Post Office Box or Street Address																			
City										State					Zip				

7 Do you purchase, recommend, specify or approve any of the Macintosh/Compatible products listed below?

- ☐ Yes (If yes, please check all that apply) ☐ No

Computers

- ☐ 01. Macintoshes
☐ 02. Workstations
☐ 03. Minis, Mainframes

Connectivity

- ☐ 10. Local Area Networks
☐ 11. Modems
☐ 12. Micro/Mini/Mainframe Links
☐ 13. Communications Software

Peripheral Equipment

- ☐ 20. Laser Printers
☐ 21. Color Printers
☐ 22. Color Monitors
☐ 23. Hard Disks
☐ 24. Backup Systems
☐ 25. Plotter, Charting Devices
☐ 26. Scanners

Add-in Boards

- ☐ 40. Memory Boards
☐ 41. Graphic Boards
☐ 42. MS DOS Boards
☐ 43. Ethernet Boards

Software

- ☐ 50. CAD/CAM
☐ 51. Graphics
☐ 52. Desktop Publishing
☐ 53. Desktop Presentation
☐ 54. Database
☐ 55. Programming
☐ 56. Accounting, Payroll
☐ 57. Spreadsheets
☐ 58. Music
☐ 59. Project Management
☐ 60. Word Processing
☐ 61. Utilities

8 If you help purchase, specify, recommend or approve Macintosh Computers, software or peripherals, for how many MACs do you have this involvement over the course of one year?

- ☐ 01. 500 + ☐ 05. 10-19
☐ 02. 100-499 ☐ 06. 4-9
☐ 03. 50-99 ☐ 07. 1-3
☐ 04. 20-49 ☐ 09. None

9 Please indicate the communications capabilities that the Macintoshes at your location have (check all that apply):

- ☐ 01. Local Area Network
☐ 02. Communicate with corporate workstations, mini or mainframe computers
☐ 03. Communicate with remote mini or mainframe computers
☐ 04. Communicate via modem
☐ 05. Voice/Data
☐ 09. Other (please specify) _____

10 Indicate how many employees there are in your entire company (check one only):

- ☐ 01. 1000 or more ☐ 02. 100-999 ☐ 03. Under 100

11 Indicate an additional individual at this location who might qualify for a FREE subscription to MacWEEK:

Name _____

Title _____ Dept. _____

Your Signature _____

Title _____ Date ____/____/____

PLEASE BE SURE THAT ALL QUESTIONS ARE ANSWERED.

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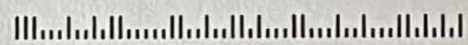
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 Preferential...
 Style Pages...
 Tabulars

Your worst nightmare...

**Does Command P
 always print?**

**Does Command F
 always find?**

**Does Command A
 always select all?**

If you answered
 yes to any of these
 questions, guess again.
 Few Command keys
 are used consistently
 in Macintosh software.
 And it's not just

Command keys. Menu bars, dialog boxes, icons
 and toolboxes have become unpredictable, too.

This means learning to use a Macintosh pro-
 gram requires more training and support than
 should be necessary.

Time to change

Consistent interface design is one of the main
 reasons why the Mac became a bestseller. But
 with success has come a flood of new software.
 Programs offering innovations for the Mac
 interface. Some of the innovations are good;
 many have just complicated matters.

Hopefully, you'll never see a menu like the
 one above. But the way things are going, your
 worst nightmare might soon be reality.

The Mac's interface consistency must be
 preserved. Applications with similar tools and
 functions shouldn't confuse users with
 inconsistent ways to accomplish the same task.

What can be done?

A lot. Participate in the first conference
 designed to propose Mac interface guidelines.

MacWEEK's ID89 conference will help define
 Mac interface solutions that work for everyone.

At ID89, you will hear experts talk about new
 trends in interface design. You will receive docu-
 mented research on what works and what doesn't.

You will be asked to vote on guidelines for
 dialog boxes, menu bar sequences, Command key
 combinations, toolbox icons and interface colors.

The conference

ID89 will take place Tuesday, September 19,
 in San Francisco, preceding the Seybold Com-
 puter Publishing Conference.

This one day conference will feature promi-
 nent speakers and interface design experts.

You will participate in discussions of standards
 proposed by extensive end user research.

You will also receive a workbook containing
 valuable background research gathered from
 MacWEEK's exclusive interface design surveys,
 a boon to all Mac programmers and corporate
 support managers.

Speak out

Whether you're a corporate in-house
 programmer, influential end user, user group
 representative or developer, you should attend
 MacWEEK's ID89. It will cover what's sure to
 be the hottest Mac topic in 1989.

Be there. Be part of the team that voices its
 concerns about the future of Mac computing.



MacWEEK
ID89

INTERFACE DESIGN CONFERENCE

Space is limited

- ☐ **Yes**, I want to attend the ID89 conference in San Francisco.
 Please reserve a space for me and send me more details.
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NeXT

From Page 53

nered industry praise when unveiled in October 1988, problems with the still-unfinished operating system have delayed its commercial release. Version 1.0 of the system was originally to be ready by the end of the second quarter, but has now slipped to August.

"We have shipped in the thousands of NeXT computers, not in the tens of thousands," Jobs said, adding that company's recent distribution agreement with BusinessLand Inc. should help boost sales.

As part of its strategy to dominate the Asian workstation market, NeXT is working with Canon on a Kanji version of its machine for release early next year.

Canon, which also distributes

the Mac in Asia, has had a working relationship with NeXT for the past five years. It helped NeXT develop its 256-Mbyte optical drive and supplies the print engine used in NeXT's 400-dpi laser printer.

The investment makes Canon the third-largest shareholder in NeXT. Jobs, co-founder and former chairman of Apple, owns 50 percent of the company he founded in 1985 with a personal investment of \$7 million. NeXT's 250 employees own 20 percent of the company, while Texas billionaire and entrepreneur H. Ross Perot, who invested \$20 million in 1987, has a 12.51 percent share. Stanford University and Carnegie-Mellon University hold a combined total of less than 1 percent, according to NeXT.

Under the terms of the invest-

ment agreement, Canon is entitled to one seat on NeXT's board of directors. As in Perot's agreement, Canon may not acquire more than 20 percent of the company in the next 10 years.

Jobs emphasized that the agreement does not include the licensing of NeXT technology. "Every product that Canon sells in Asia will be manufactured at NeXT's automated plant in Fremont by NeXT people," Jobs said.

Randy Heffner, NeXT's vice president of manufacturing, said the plant employs state-of-the-art surface mount technology. Circuit boards are put together in 20 minutes on the highly automated assembly line and are untouched by human hands throughout the process. □

Imprimis

From Page 53

last year became the Imprimis division, had a 14.9 percent share. Porter said results for 1988 and 1989 were likely to be similar.

Seagate last year sold about 5 million drives, according to Porter, and reported revenues of \$1.3 billion. Imprimis' sales totaled \$1.2 billion. The company, a leading player in the mainframe and workstation storage market in addition to its personal computer business, declined to disclose overall unit sales.

Lundberg said, however, that Imprimis has shipped more than 2 million of its 5.25-inch Wren drives, 1 million of them since March 1988.

Alexa McCloughan, an analyst at Goldman & Sachs in Boston, called the deal "a good fit," given that Sea-

gate's strength has been in distribution into the low-cost, low-capacity market, whereas Imprimis is known for its engineering prowess in the high-capacity range.

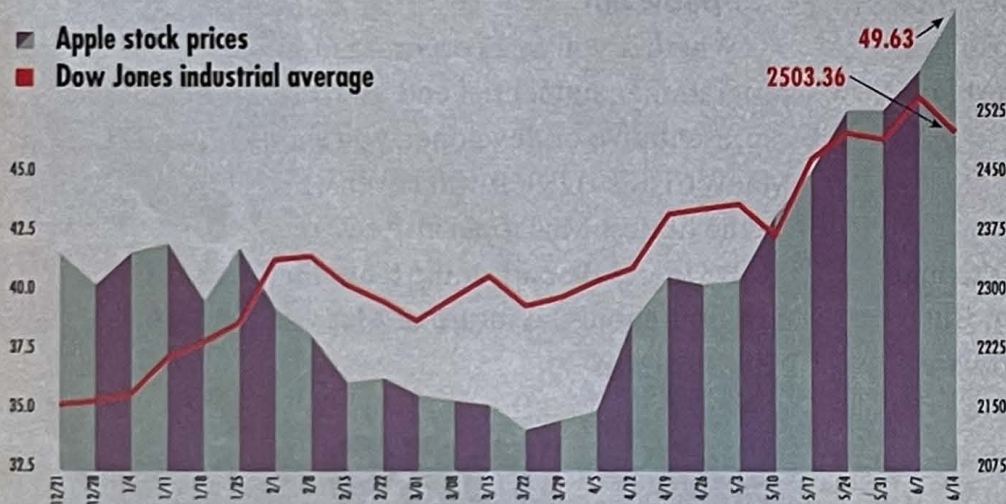
Charles McConathy, president of MicroNet Technology, an Irvine, Calif., vendor that specializes in Imprimis drives but also offers some Seagate units, said, "The acquisition could turn out to be a great thing that will help the U.S. storage industry maintain its technological edge over the Japanese. But it would be a shame if Imprimis quality is compromised in this deal."

CDC said the sale was part of its plan to refocus on computer services and system integration. Earlier this year the company laid off 3,100 people and closed its super-computer subsidiary. □

MarketWEEK

STOCKWATCH

■ Apple stock prices
■ Dow Jones industrial average



Apple stock up on news of communications products, while source code leak has no effect

Despite reports of its purloined source code, Apple's stock trekked 2.85 percent higher during the week ended June 14 due mainly to the announcement of new communications products scheduled for release later this year. The news boosted Apple to a 12-

month high of \$49.63 per share.

Seagate also gained last week, marching 8.93 percent higher as it signed a letter of intent to buy Control Data Corp.'s Imprimis Technology disk-drive unit (see story, Page 53).

Wall Street also reacted favorably to Adobe's projection of a 50

percent gain to about \$7 million in second-quarter net income. For the week, Adobe gained 6.36 percent, to \$29.25 per share.

Motorola slipped 1.32 percent, sagging along with other semiconductor stocks in response to a decline in May's book-to-bill ratio.

Macintosh-related stocks

		CLOSING PRICE 6/7/89	CLOSING PRICE 6/14/89	PERCENT CHANGE IN PERIOD	P/E RATIO	ANNUAL HIGH	ANNUAL LOW
MAC-RELATED COMPANIES	Adobe Systems	27.50	29.25	6.36	26	30.00	17.38
	Aldus Corp.	17.75	16.25	-8.45	14	24.50	14.75
	Apple	48.25	49.63	2.85	16	49.63	33.50
	Ashion-Tate	22.75	17.75	-21.98	10	27.75	17.75
	Businessland	12.50	13.13	5.00	12	15.25	10.00
	Microsoft Corp.	59.75	57.75	-3.35	21	70.50	45.25
	Motorola Corp.	56.63	55.88	-1.32	16	60.38	35.88
	QMS Inc.	8.00	8.88	10.94	0	10.25	6.00
	Seagate	14.00	15.25	8.93	0	18.88	6.50
	3Com Corp.	20.50	20.25	-1.22	17	28.75	15.63
INDUSTRY INDICATORS	Digital Equipment	93.88	91.75	-2.26	10	122.38	86.38
	IBM	109.50	110.38	0.80	12	130.88	106.25
	Sun Microsystems	19.50	18.25	-6.41	13	23.00	13.00

S=Reflects stock split

D=Deficit

Compiled by Norbury International Inc., Boulder, Colo.

MARKETWATCH

Most graphic artists accept personal computer technology

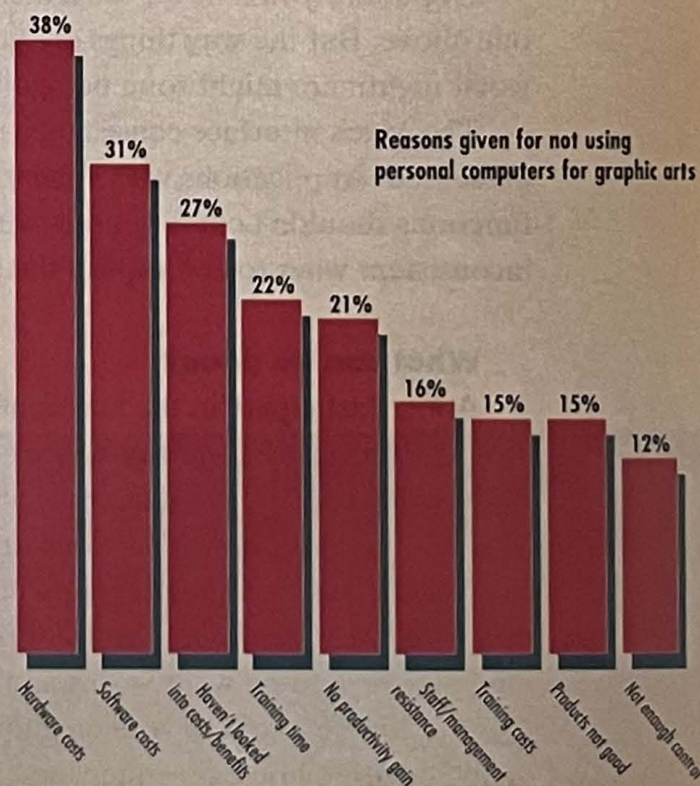
MacWEEK's survey of a cross section of graphic artists found that 63 percent of their companies use personal computers for some process in graphic arts, and 41 percent of the companies use Macs for the arts. In fact, as reported in the June 13 issue, almost half (47 percent) of the companies not now using Macs expect to use them within a year.

This tendency toward personal computers is also exemplified by the arguments that companies that don't use personal computers offer for their reluctance. The main reasons are cost, training and lack of

knowledge of benefits rather than rejection of technology.

Only a minority of non-users believe the technology itself is inadequate, citing reasons for non-use such as lack of productivity advantage, poor quality of products or lack of adequate control over graphics with computers.

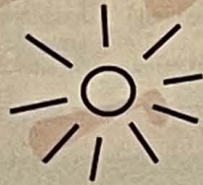
It appears that although graphic arts and desktop publishing applications are resource-intensive, the graphic arts market is price-sensitive. Many small graphic arts companies hunger for low-cost, fully functional Mac products. — By Griffin Dix



Source: 1989 Graphic Arts Market Study, MacWEEK/The Research Spectrum

MacWEEK

SUMMER



DOUBLE DOUBLE FEATURES

MacWEEK puts the sizzle in summer

with three colossal double issues. Packed with the latest Mac news, each MacWEEK Double Feature includes a special section on graphic arts (**GA**) or networking/connectivity (**Gateways**).

These are MacWEEK issues you'll want to read, pass around the office, then save for reference.

MacWEEK Summer Double Features are coming soon to a mail room near you!

Issue	Features
June 27 – July 4	Window On Telecommunications GA Special Section
July 11 – July 18	Window On Word Processing Gateways Special Section
Aug 22 – Sept 5	Window On Expansion Boards GA Special Section

Note: MacWEEK will not be published July 4, July 18, August 29 or September 5.



VAX/VMS left high and dry

The recent grand larceny at Apple has elicited a full-court press security response. Even De Anza 2, home of the marketing department, is now protected with armed guards. Mac the Knife decided he would be more comfortable in New York at the big network and connectivity rollout.

The first thing he noticed was that AppleTalk for VMS Version 3.0, needed to support AppleTalk Phase 2, was conspicuously absent. Apple promised 3.0 before the announcement but pulled it at the last minute, to the puzzlement of both users and vendors. Without Phase 2 support, VAX/VMS systems running AppleTalk cannot

migrate to Apple's promised land of a 16-million-node network or take advantage of other Phase 2 features.

Did Apple just forget or is it that the company couldn't figure out how to do it? Apple has hinted that VAX/VMS support will be available by next spring, but that's a long wait for sites that were planning Phase 2 conver-

sion by end of summer. One knowledgeable source swears the project could be completed in as little as two months. Maybe Apple is waiting for the ballyhooed alliance with DEC to bear fruit at the expense of its customers.

Let her RIP. In a move that appears to be part of a carefully planned counterattack against the growing popularity of PostScript clones, Adobe is developing an all-software RIP to replace PROM-based RIPs. Sources point out that an all-software RIP would be easy on the budget since it's easier to upgrade a Mac with a faster processor and more memory than to buy a new RIP. The Knife's sources expect the product to hit the market in the next couple of months and to be prominently displayed at the September Seybold Conference in San Francisco.

The report about Ashton-Tate's FullWrite 2.0 project smoked out confirmation of another item. Depressing financial results notwithstanding, the company is concurrently working on a FullWrite 3.0 project that is optimistically scheduled for a January release, just four short months after the scheduled September release of 2.0.

Among the 3.0 features is the all-important ability to edit TIFF files and a muscular table editor, thanks to the inclusion of a chunk of Full Impact code. (This is not surprising, since Full Impact father Randy Wigginton is up to his elbows in the project.) Stealing a page from the MindWrite Express book, Version 3.0 will ship with more than 20 word processing file format translators and a one-way FullWrite-to-PageMaker translator. But, the Knife asks, will it run on his 1-Mbyte Mac?

MindWrite's new parent, DeltaPoint, shows signs of being more aggressive than previous owners. The recently announced DeltaGraph, for example, may have some surprising ramifications. Although it was primarily designed as a companion program to DeltaPoint's Trapeze spreadsheet, it also works with Excel files. Sources who have seen the product said the graphics are impressive enough to, say, clip Informix's Wingz.

In the color painting department, SuperMac Software's long-delayed PixelPaint Professional is due to ship in the first week of July. Early reports on the full 32-bit color program are very positive. Several new tools, including a sophisticated anti-aliasing brush and image-processing tools such as a smearing brush, should help SuperMac resist the threat of Time Arts' Lumina. Careful readers will remember that a Mac version of the popular and powerful DOS-based color paint program will be made available later this year.

The Knife has also learned that Lotus has taken a second look at purchasing Cricket and has turned thumbs down on the idea. Although nothing has been finalized, one source claims that software giant Computer Associates is just a pile of paperwork away from making the acquisition itself.

Rocky road. Apple is having a rough time in its attempt to satisfy everyone with the portable. "It's too big, it's too heavy." "It should be a full-featured '030." "It should be an inexpensive minimalist machine." There were even wild rumors last week that the entire project had been canceled, an event that would undoubtedly bring joy to the hearts of individuals at established companies already providing portable Macs, including Colby and Dynamac, and companies that intend to produce them, such as Wallaby. □

Such a deal. You supply the tip, and Mac the Knife will supply the MacWEEK mug. Contact the Knife at (415) 243-3500 or MCI (MacTheKnife).

Honestly!



The Nutmeg 19 costs less than you would expect.

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So you've just finished writing your presentation on the effects of airport noise on family life, and even you're not impressed. It's just business as usual—words and graphs.

Suddenly, you can hear it. Jets roaring off the runway! Babies crying! Dogs howling! The Senator's voice backing your presentation with oratorical persuasion, "Based on this report, we should scrap airport expansion."

What you need are the sounds of the new MacRecorder 2.0 Sound System. MacRecorder is an audio workshop that lets you record, edit, and play back live or pre-recorded sound on your Macintosh.

Plug the MacRecorder digitizer into the back of your Macintosh, and use one of the three MacRecorder software packages to record your sound track.

HyperSound software lets you record and save sound directly into HyperCard. You can even play stereo sound from any HyperCard stack. And with HyperSound's new memory-saving sound compression features, you can produce multimedia presentations small enough to fit on floppy disks.

What's more, the new HyperSound Toolkit gives you programming tools to make interactive sound stacks. You can play and record compressed sound from within your own HyperCard stacks.

When you're ready to edit, mix, or enhance your sound, SoundEdit version 2.0 offers you new sound compression capabilities (including MACE), and an even more impressive library of effects. SoundEdit also features Spectrogram and Sonogram, new tools to help you analyze the frequencies of live or recorded sound.

So before you write another mute presentation, join the sonic boom. Call (415) 849-2331 for the Farallon dealer nearest you. Or for a real-time demonstration, call (415) 845-1126 and let MacRecorder do the talking.

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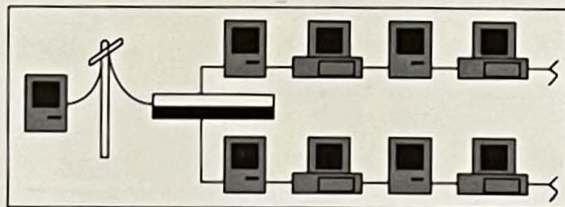
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